Mental Health Care Utilization by Active Duty Service Members in the Military Health System, Fiscal Years 2005–2016

Prepared by the Deployment Health Clinical Center

Released January 2017 by Deployment Health Clinical Center, a Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury Center.
This product is reviewed annually and is current until superseded.
301-295-7681 | pdhealth.mil PUID 4261

Contents

I. Overview

Description

This section contains trends in utilization of direct care inpatient and outpatient services in which a mental health disorder was diagnosed among active duty service members (ADSMs), including active Guard and reserves, in fiscal years 2005 through 2016. Utilization metrics include the number of: 1) outpatient encounters, 2) inpatient stays, and 3) inpatient bed days. These metrics are aggregated and also stratified by mental health disorder and by military service, which includes Army, Air Force, Marines, and Navy. A patient may have had more than one diagnosed mental health disorder at the same inpatient stay or outpatient visit, and in those situations, that stay, visit, and/or number of bed days is captured in the utilization metrics for both disorders.

The mental health disorders assessed in this report include: adjustment disorders, alcohol-related disorders, alcohol abuse, alcohol dependence, anxiety disorders, bipolar disorders, depressive disorders, insomnia, personality disorders, psychoses, posttraumatic stress disorder (PTSD), schizophrenia, substance-related disorders, substance abuse, and substance dependence.

This report contains three sections:

I. Utilization of direct care inpatient and outpatient services for any mental health disorder by military service

II. Utilization of direct care inpatient and outpatient services for each specific mental health disorder by military service. For each diagnosis, you will find two sub-sections:

   1. **Case Definition** (Armed Forces Health Surveillance Branch definition for the disorder of interest)
   2. http://www.health.mil/Military-Health-Topics/Health-Readiness/Armed-Forces-Health-Surveillance-Branch/Epidemiology-and-Analysis/Surveillance-Case-Definitions
   3. **The Numbers:** Graph of direct care outpatient visits, inpatient stays, and inpatient bed days by military service

III. Main Findings: List of main takeaways from these data

Methodology

We used the Military Health System Data Repository (MDR) to conduct these utilization analyses. Outpatient visits and inpatient stays were included in this analysis if they contained a diagnosis code for the mental health disorder category of interest in the first or second diagnostic position.

Date of Data Pull: April 2017

Definitions

Active Duty Service Member (ADSM) Population
ADSM was defined as any individual in the active component (including National Guard and reserves) of the Army, Navy, Air Force, and Marine Corps on the date of the outpatient visit in which they received the relevant mental health diagnosis.

Fiscal Year
Fiscal year of interest (e.g. fiscal year 2010 spans from Oct. 1, 2009, through Sep. 30, 2010).

Military Service
The military service of the ADSM, determined by the respective "Sponsor Service" variable in each relevant data table within the MDR.

ICD-10 Implementation

Starting fiscal year 2017 (Oct. 1st, 2016), the Military Health System transitioned from using ICD-9 to ICD-10 diagnosis codes to record patient diagnoses. The case definitions used in this analysis were adjusted to reflect this change. Since ICD-10 codes are not a one-for-one match to ICD-9 codes, certain diagnoses may be artificially altered between fiscal year 2016 and fiscal year 2017. These alterations may not reflect true changes in mental health utilization.

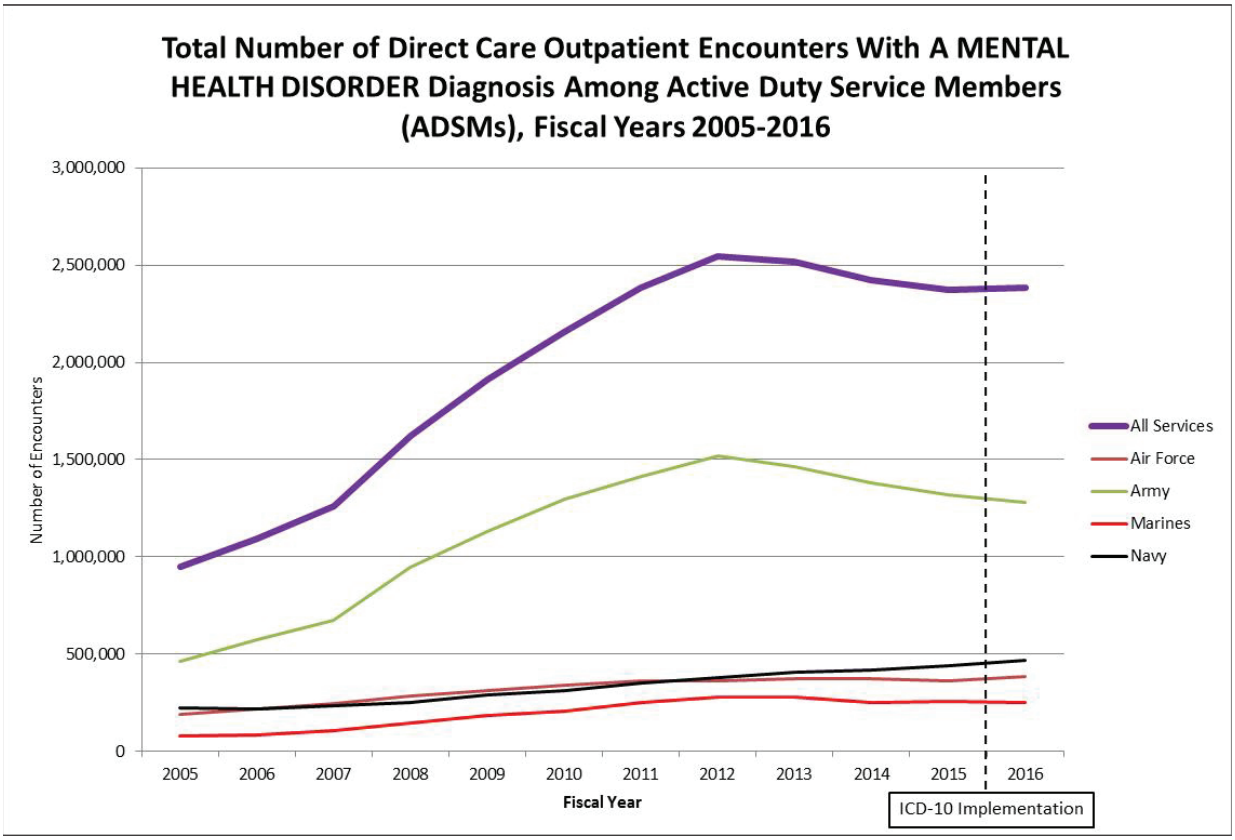
II. Utilization of Direct Care Services for Any Mental Health Disorder by Service

Description

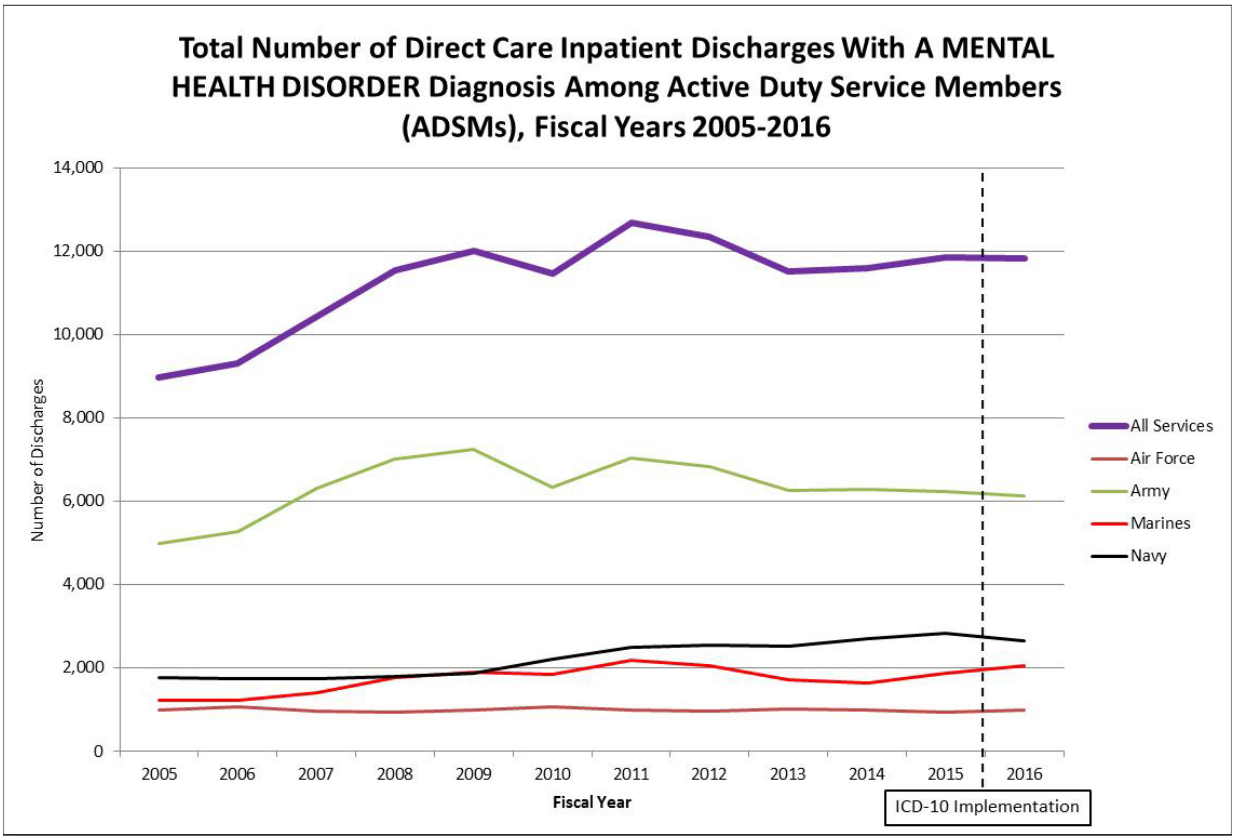
This section contains trends in the utilization of inpatient and outpatient services for any mental health disorder to include: adjustment disorders, alcohol-related disorders, alcohol abuse, alcohol dependence, anxiety disorders, bipolar disorders, depressive disorders, insomnia, personality disorders, psychoses, posttraumatic stress disorder (PTSD), schizophrenia, substance-related disorders, substance abuse, and substance dependence.

The Numbers

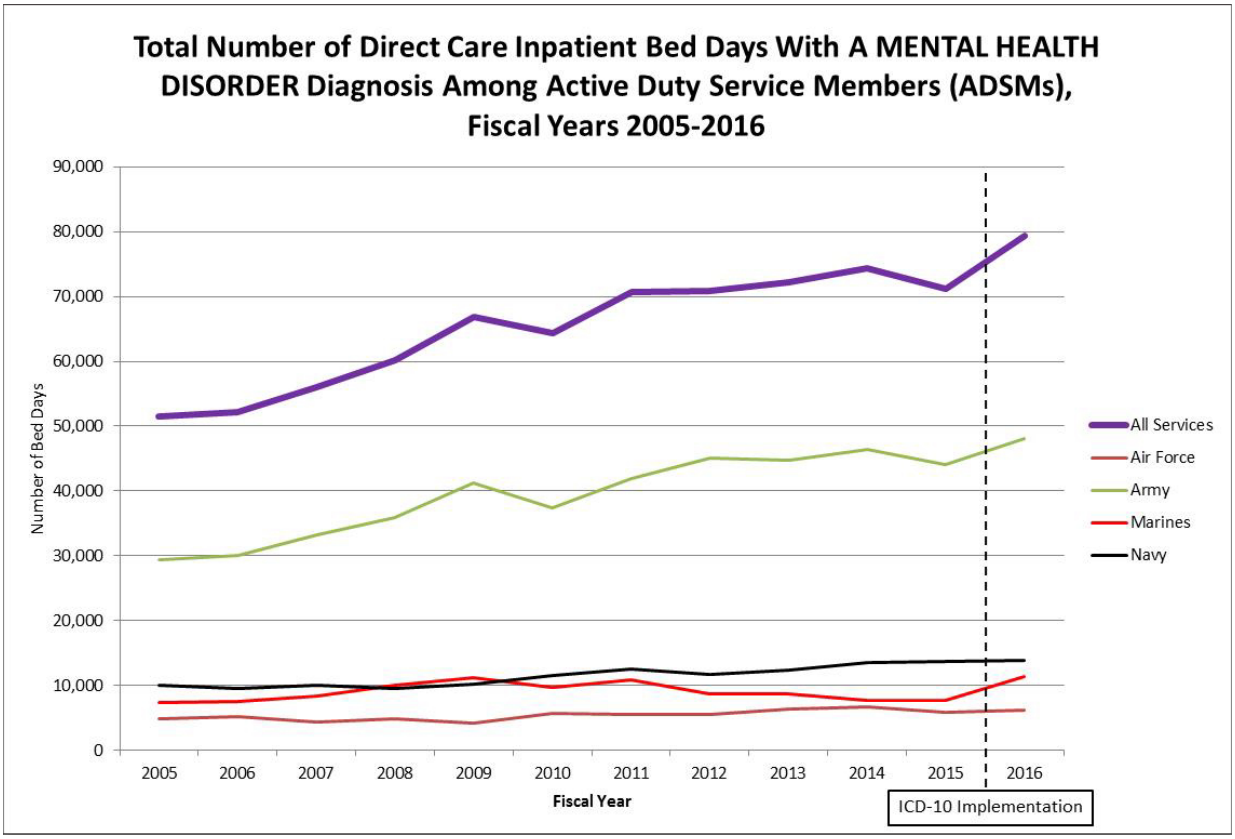
Outpatient Encounters



Inpatient Stays



Inpatient Bed Days



Main Findings

- The total number of direct care mental health-related outpatient visits among ADSMs increased by 168 percent from fiscal year 2005 (949,110) through fiscal year 2012 (2,546,167) and subsequently decreased through fiscal year 2016 (2,382,134). The mean number of mental health-related outpatient visits among ADSMs with at least one mental health-related outpatient visit steadily rose from fiscal year 2005 (4.98) through fiscal year 2016 (8.80). However, the median number of mental health-related outpatient visits only increased slightly, from fiscal year 2005 (2) to fiscal year 2016 (3). The discrepancy between mean and median suggests a small subset of ADSMs utilize a disproportionately high number of mental health-related outpatient services compared to the remainder of the ADSM population seeking mental health care.

  Please note, mean and median statistics are not included in graphical/tabular format in this report.

- The Army had the highest total number of direct care outpatient visits compared to the rest of the listed services, rising from 460,551 visits in fiscal year 2005 (49 percent of all visits that year) to 1,519,470 in fiscal year 2012 (60 percent of all visits that year) and decreasing slightly in the remaining four years of the measurement period. This trend aligns with Army's large ADSM population and high prevalence of mental health disorder diagnoses.

  See the Psychological Health by the Numbers report: "Mental Health Disorder Prevalence among Active Duty Service Members" for more details.

  However, the mean and median number of mental health-related outpatient visits among ADSMs with at least one mental health-related outpatient visit was only slightly higher among Army ADSMs compared to the remainder of the listed services during the measurement period.

  Please note, mean and median statistics are not included in graphical/tabular format in this report.

- The total number of direct care mental health-related inpatient stays rose from 8,978 in fiscal year 2005 to 12,695 in fiscal year 2011, declining to 11,821 in fiscal year 2016. Consistent with reported trends in outpatient visits, the total number of mental health-related inpatient stays was highest among Army ADSMs, while the mean and median number of inpatient stays remained relatively similar between the Army and other services.
- The total number of direct care inpatient mental health-related bed days rose from 51,571 in fiscal year 2005 to its highest level of 74,403 in fiscal year 2014. The average number of bed days among ADSMs remained fairly stable throughout fiscal years 2005 to 2016, hovering around seven. Consistent with reported trends in outpatient encounters and inpatient stays, the total number of mental health-related inpatient bed days was highest among Army ADSMs, whereas the mean and median number of inpatient bed days fluctuated among all listed services during the measurement period.

III. Utilization of Direct Care Services for Specific Mental Health Disorder by Service

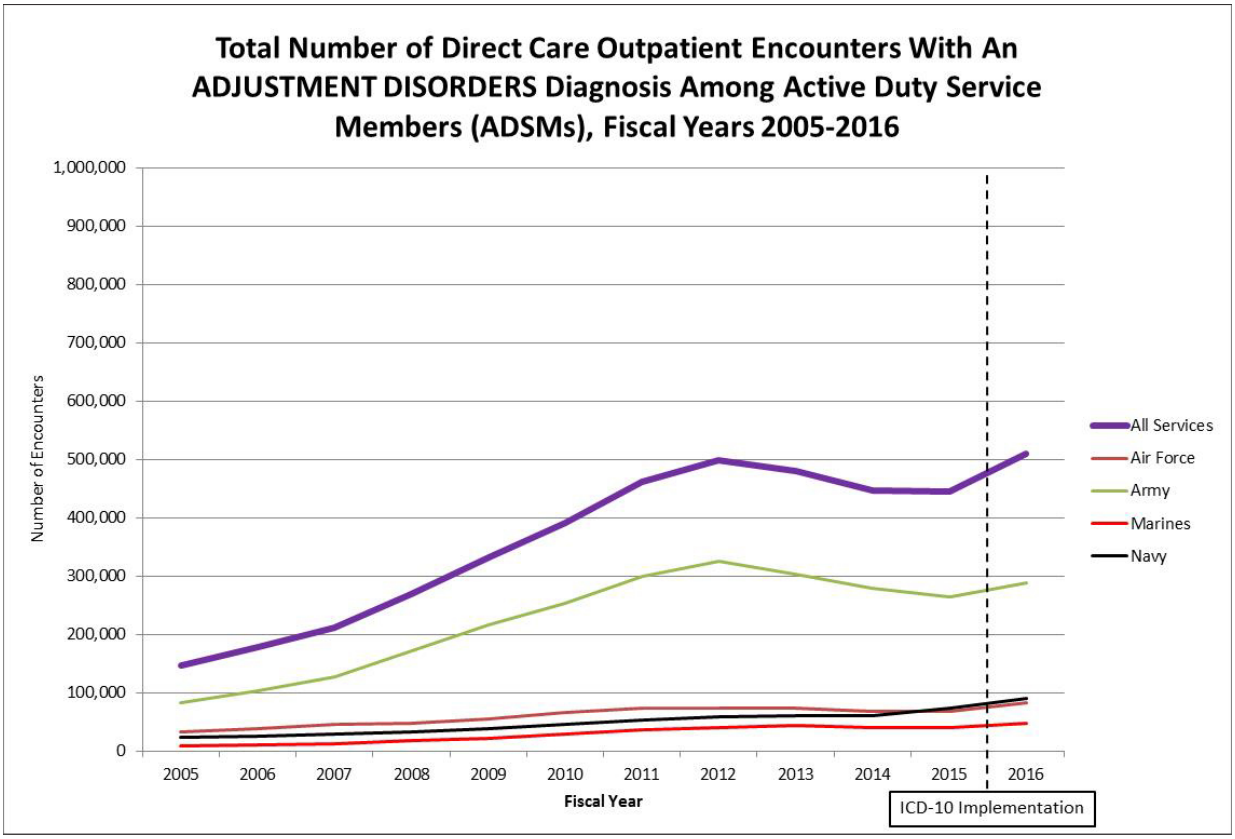
Adjustment Disorders

Definition

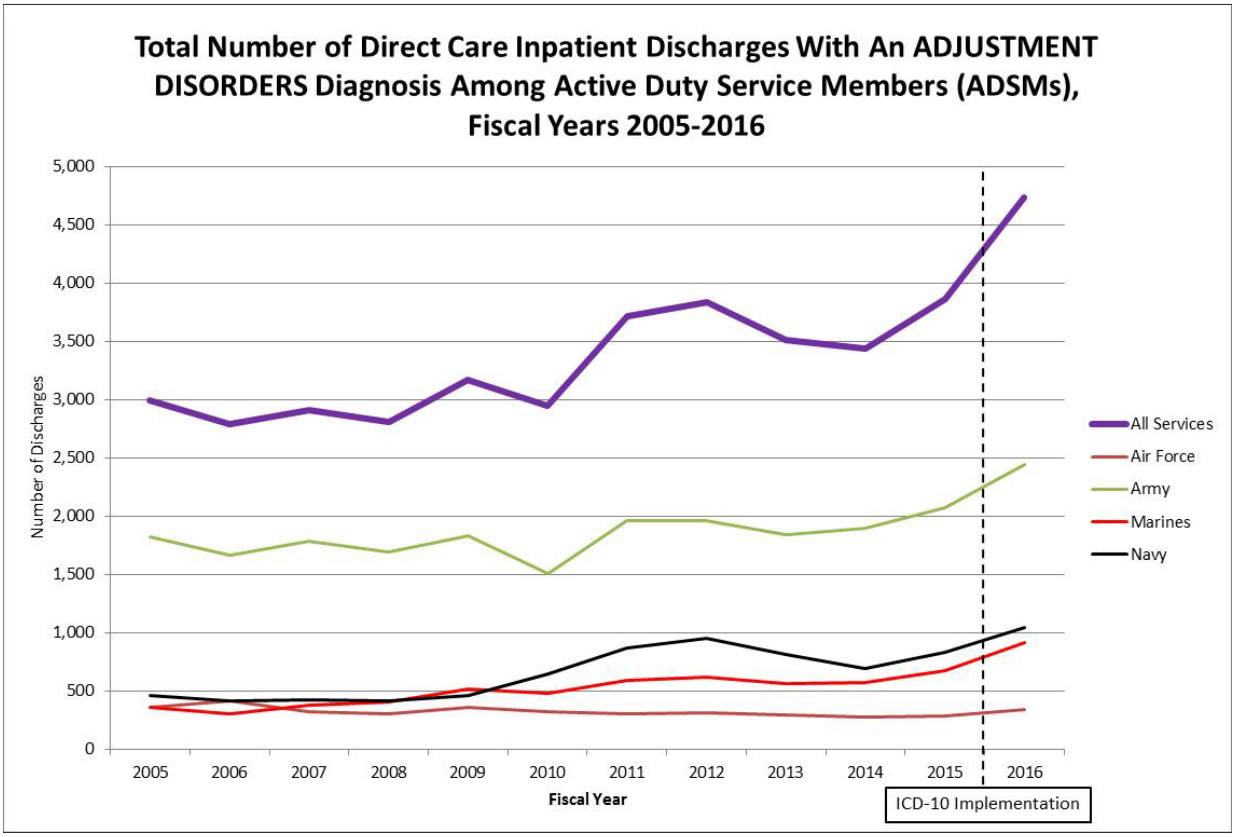
An adjustment disorder is a psychological response to an identifiable stressor or group of stressors that cause(s) significant emotional or behavioral symptoms that do not meet criteria for another specific Axis I disorder. Symptoms cause marked distress that is in excess of what would be expected from exposure to the stressor and may cause significant impairment in social or occupational functioning. Symptoms do not represent bereavement, must occur within three months of the event(s) or stressor(s), and must persist for no longer than six months after the stressor, or its consequences, have been removed.[1,2] This category does not include acute stress disorders or posttraumatic stress disorder (PTSD). For PTSD, see the PTSD prevalence page.

The Numbers

Outpatient Encounters



Inpatient Discharges



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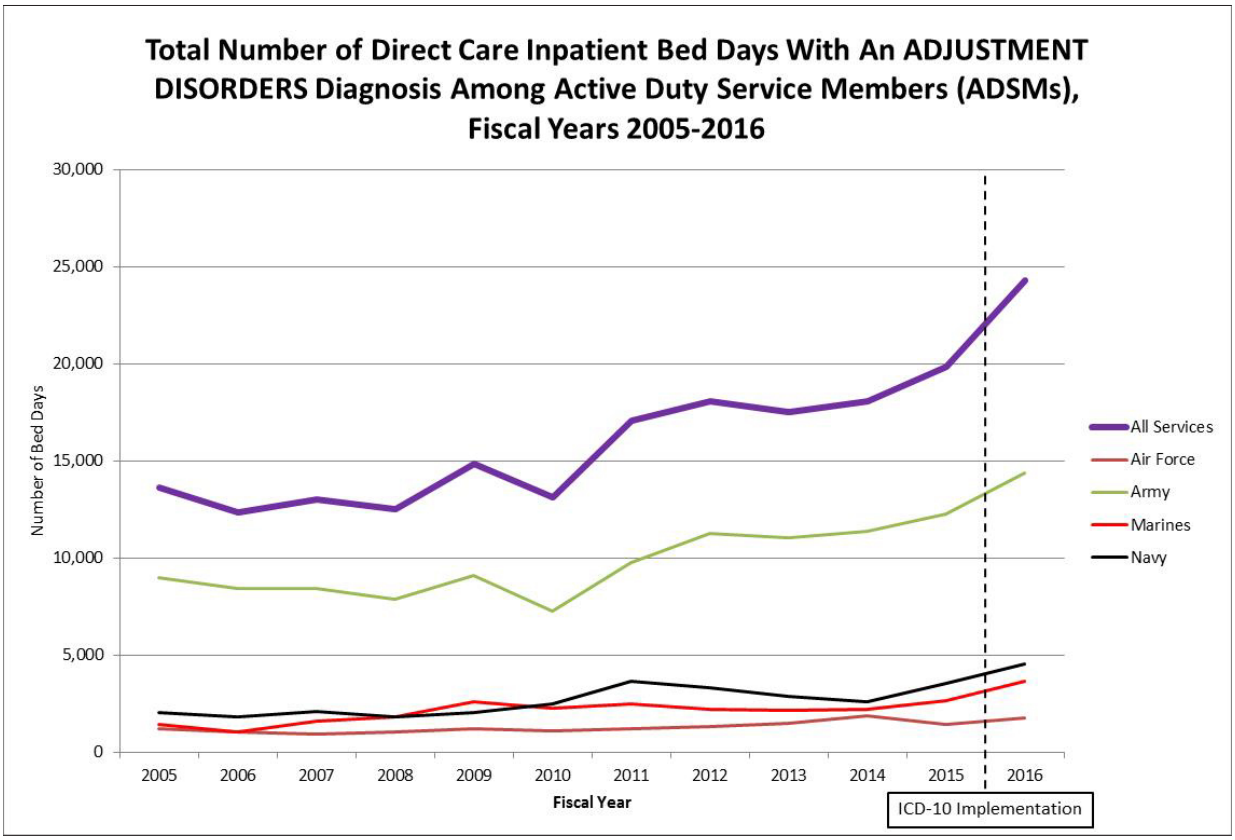


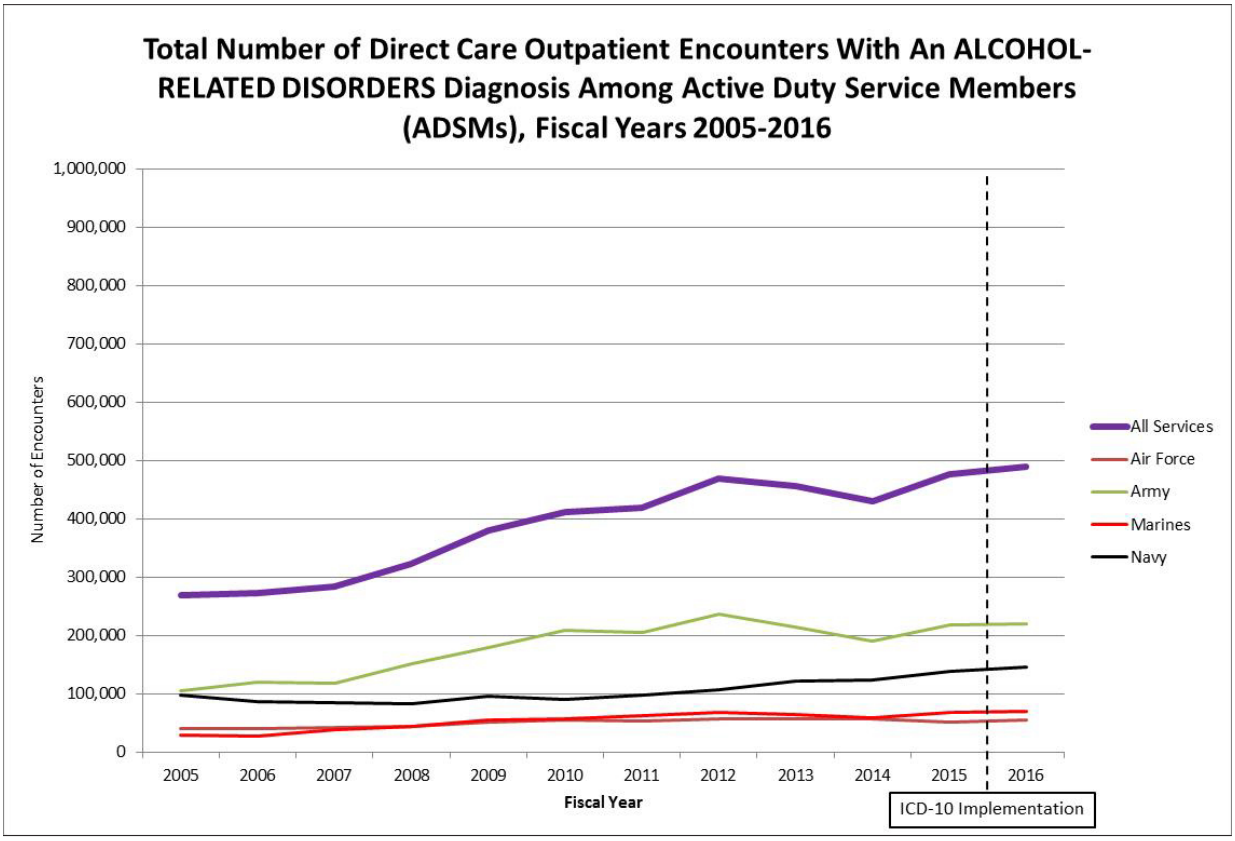
Alcohol-related Disorders

Definition

Alcohol-related disorders encompass both alcohol abuse and alcohol dependence, both of which will be defined in the following two sections. This category does not include alcohol use disorders.

The Numbers

Outpatient Encounters



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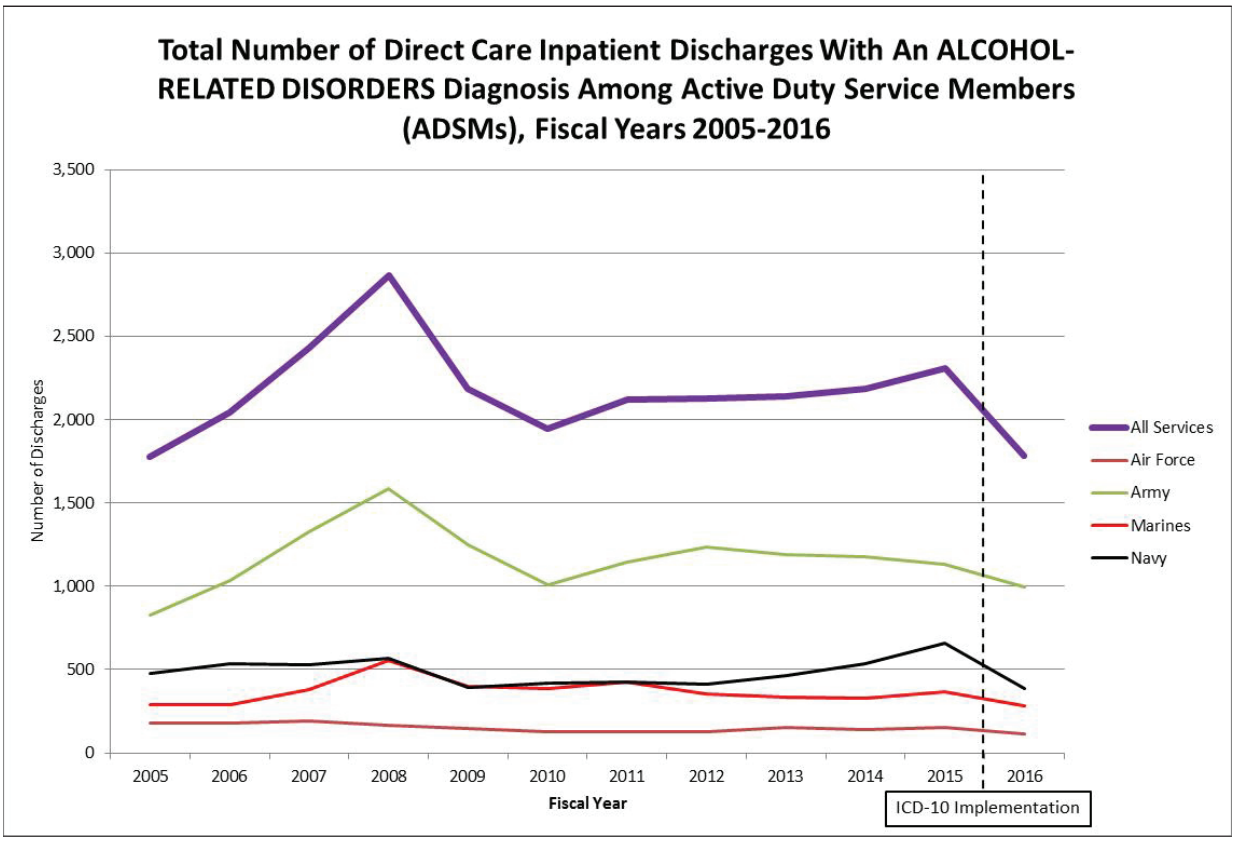
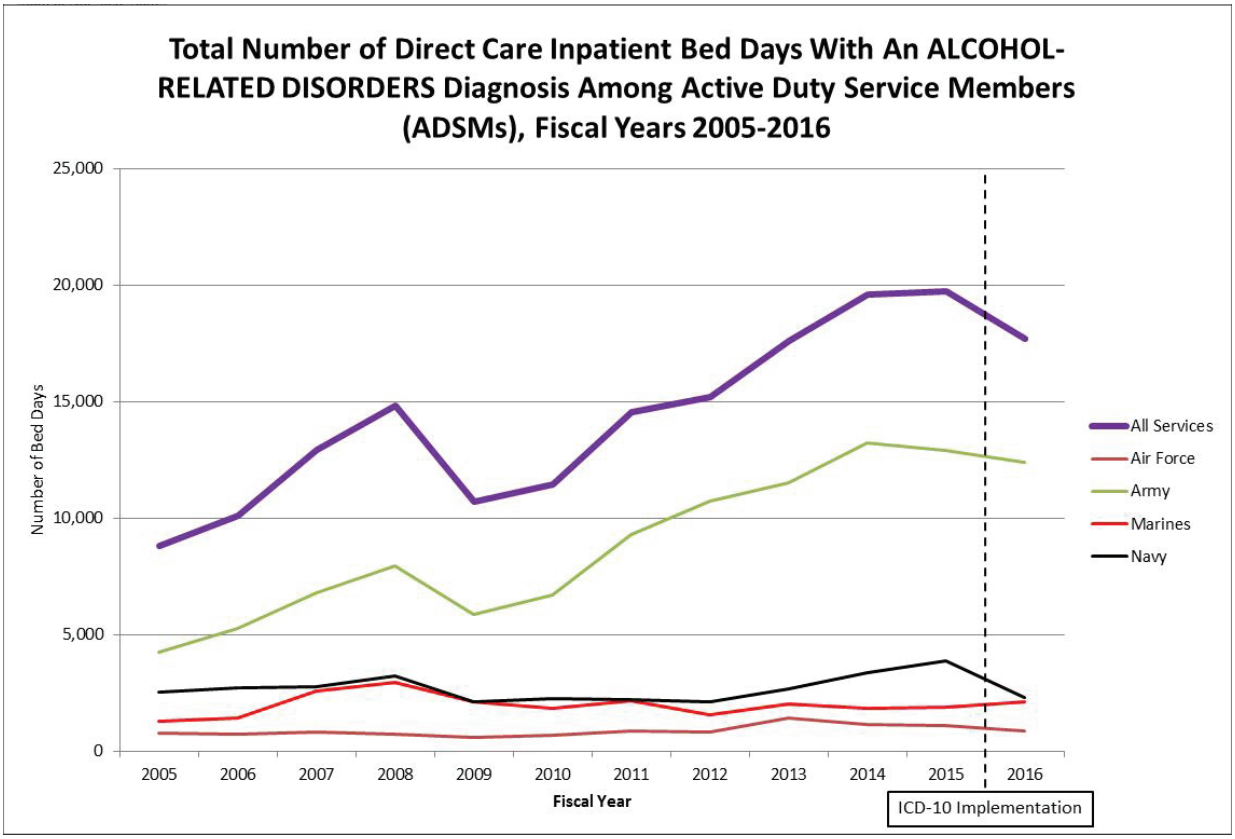


Inpatient Bed Days



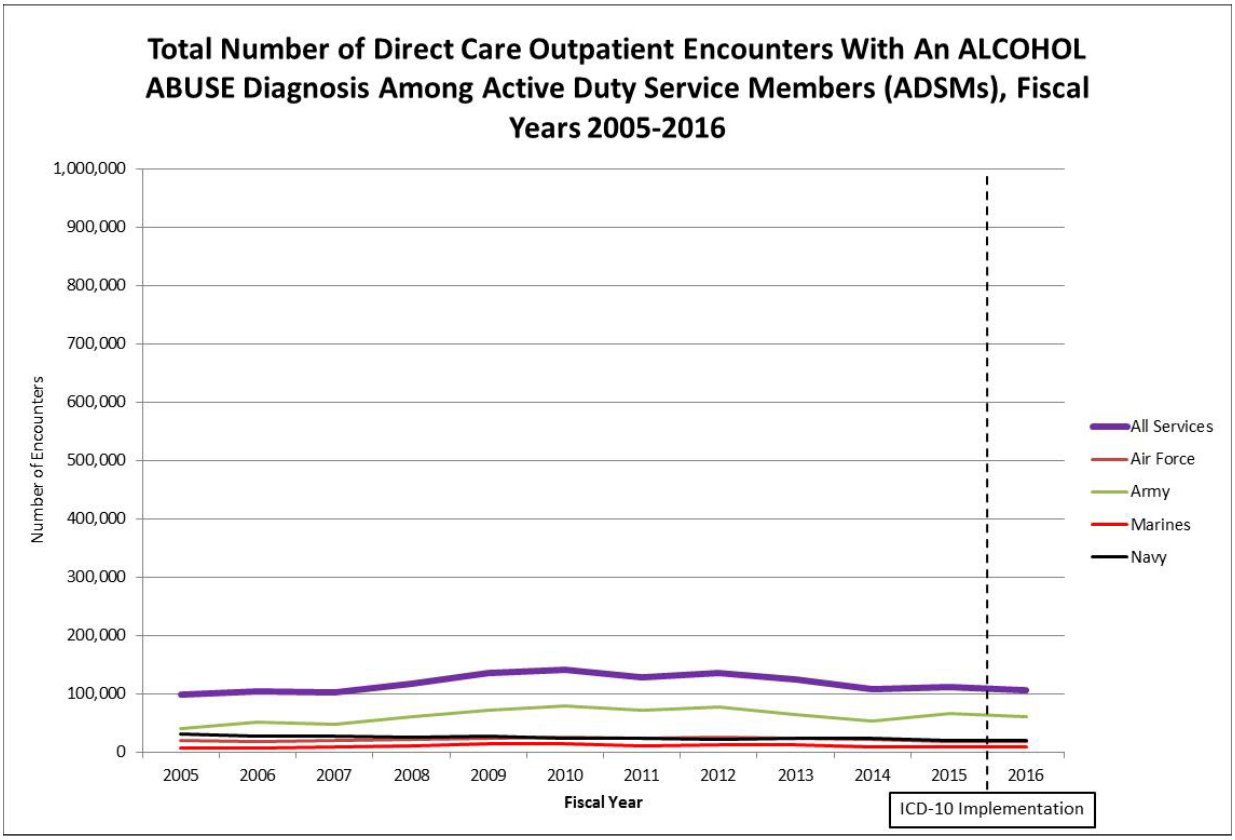
Alcohol Abuse

Definition

Alcohol *abuse* is a maladaptive pattern of alcohol use leading to clinically significant impairment or distress. Occurring within a 12-month period, alcohol abuse is usually manifested by recurrent alcohol use resulting in a failure to fulfill major role obligations, use in situations that are physically hazardous, alcohol-related legal problems, and continued alcohol use despite social and interpersonal problems caused by, or exacerbated by, the effects of alcohol.[1,2]

The Numbers

Outpatient Encounters



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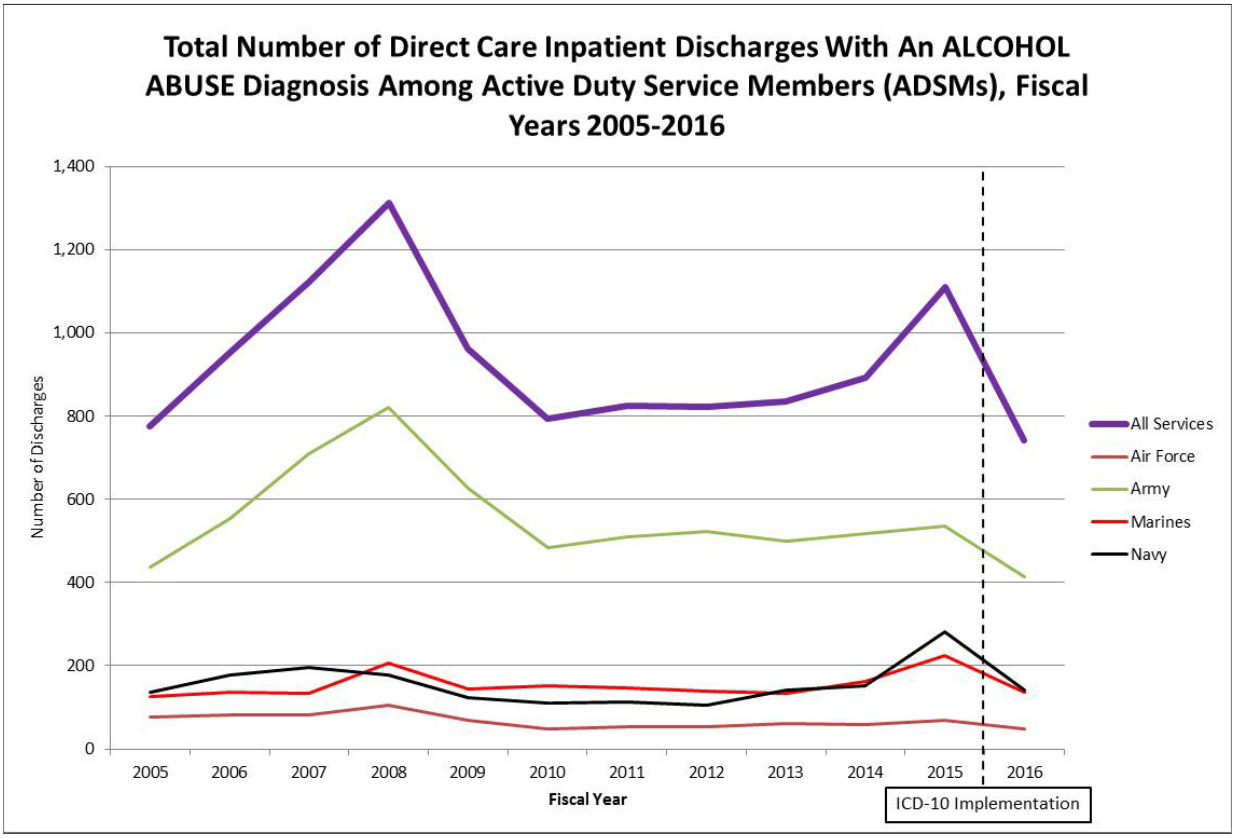
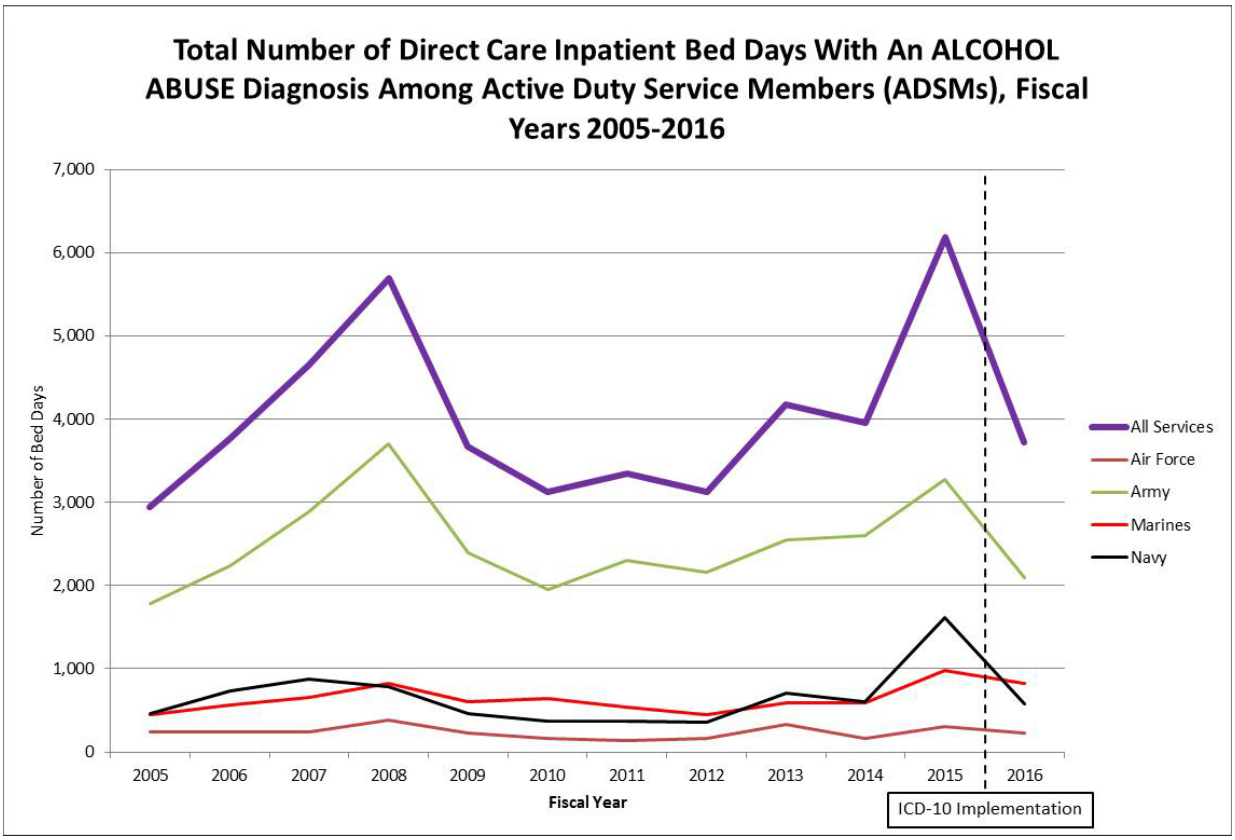


Inpatient Bed Days



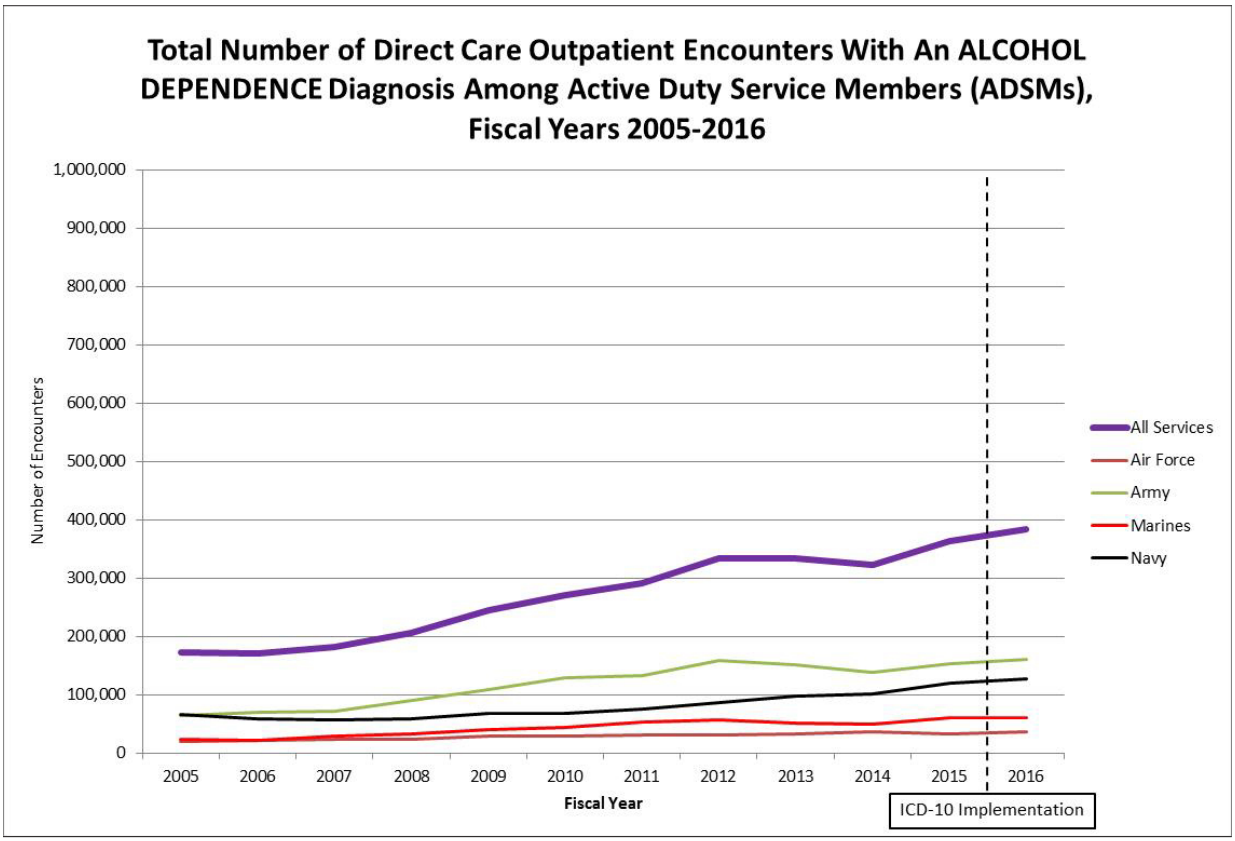
Alcohol Dependence

Definition

Alcohol *dependence* is a maladaptive pattern of alcohol abuse leading to clinically significant impairment, distress, and hardship. There is a pattern of repeated alcohol use that often results in tolerance, withdrawal, and compulsive drinking behavior. Often, a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects. There are persistent desires to drink and unsuccessful efforts to cut down or control use. Denial of an alcohol abuse-related problem is an inherent component of dependence.[1,2]

The Numbers

Outpatient Encounters



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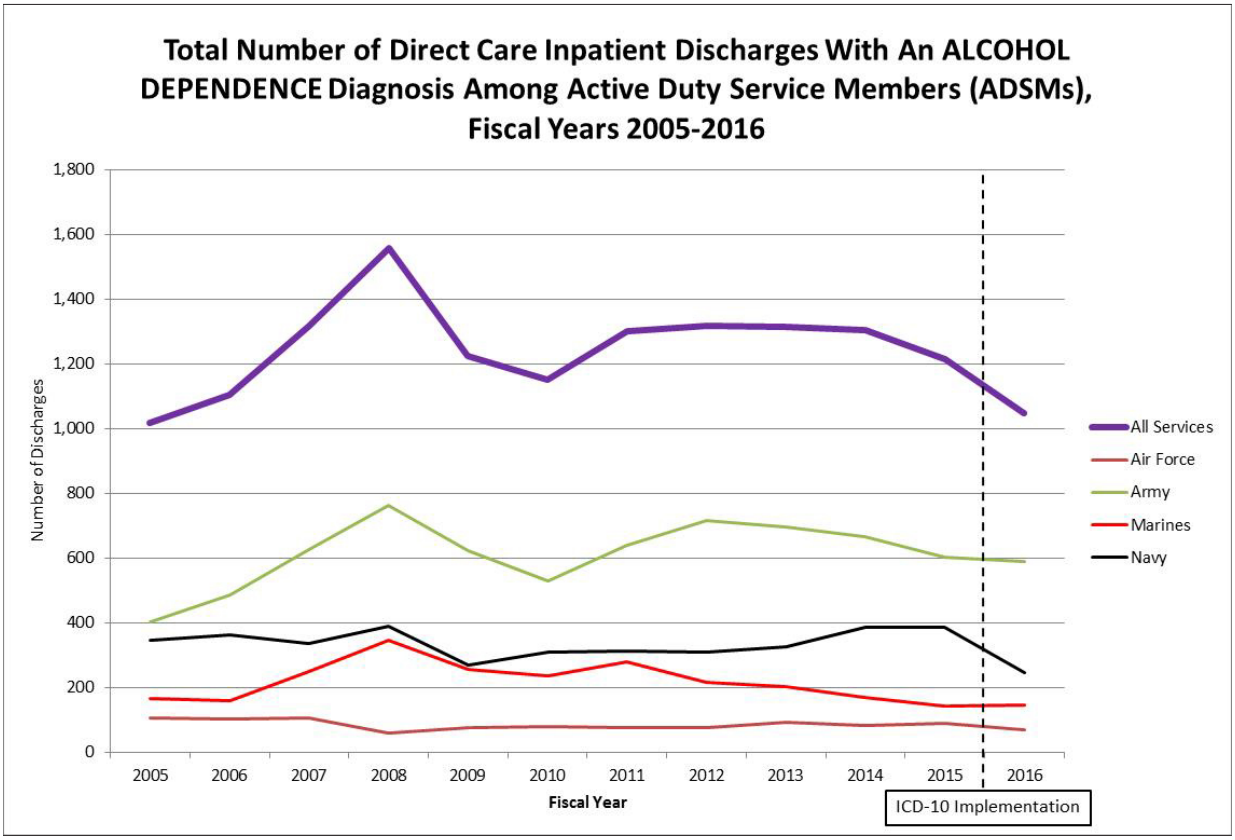

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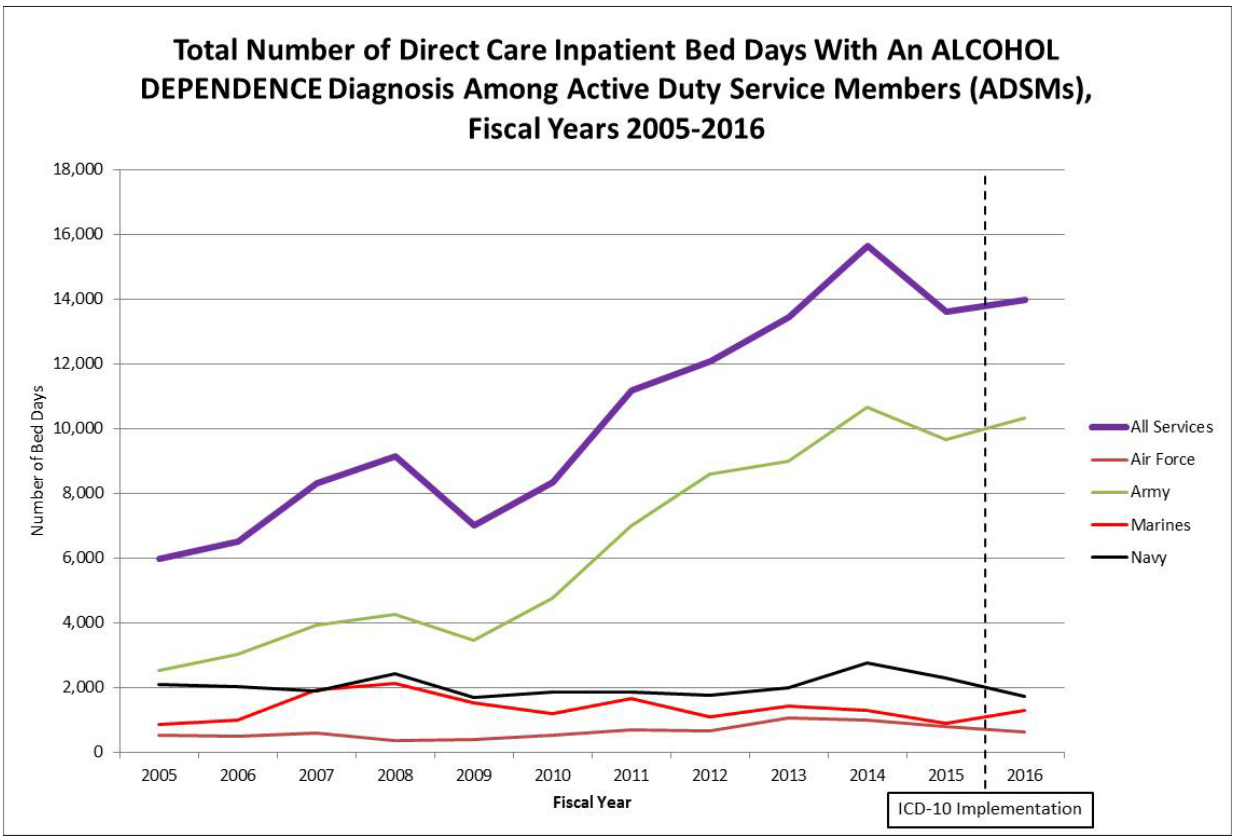


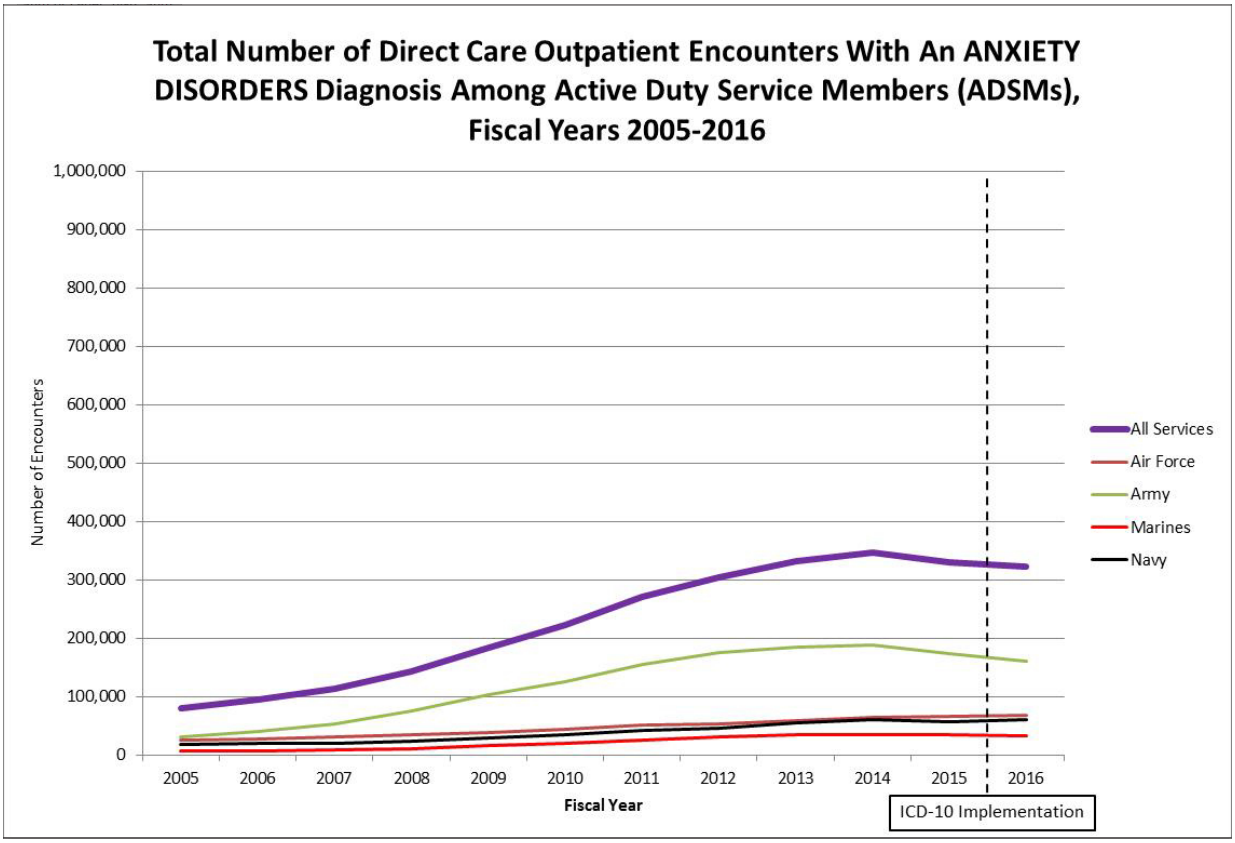
Anxiety Disorders

Definition

Anxiety disorders encompass a broad range of mental illnesses. Generalized anxiety disorders are characterized by chronic and excessive worry about minor day-to-day problems. The worrying is usually severe and impedes an individual's social and occupational functioning. Individuals with phobias have a persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation. Exposure to the phobic stimulus results in an immediate anxiety reaction or panic attack. Panic disorders are characterized by unexpected and repeated episodes of intense fear of disaster or of losing control even when there is no real danger. Attacks are often accompanied by physical symptoms of stress. Individuals with obsessive compulsive disorder experience obsessions (recurrent, persistent thoughts, impulses or images in excess of worries about real-life problems) and compulsions (repetitive behaviors such as hand washing, ordering, checking or mental acts such as praying, counting, repeating words silently) and are driven to perform these activities in response to an obsession.[1,2]

The Numbers

Outpatient Encounters



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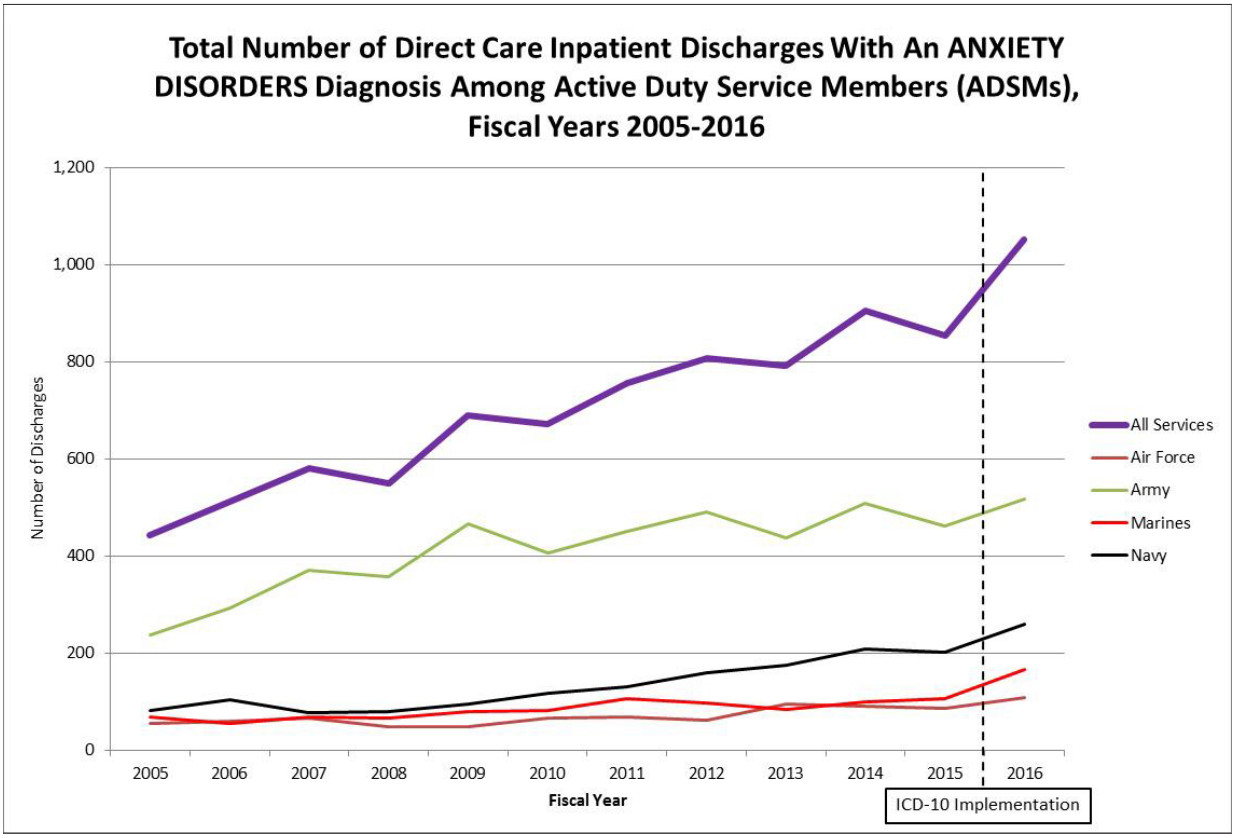
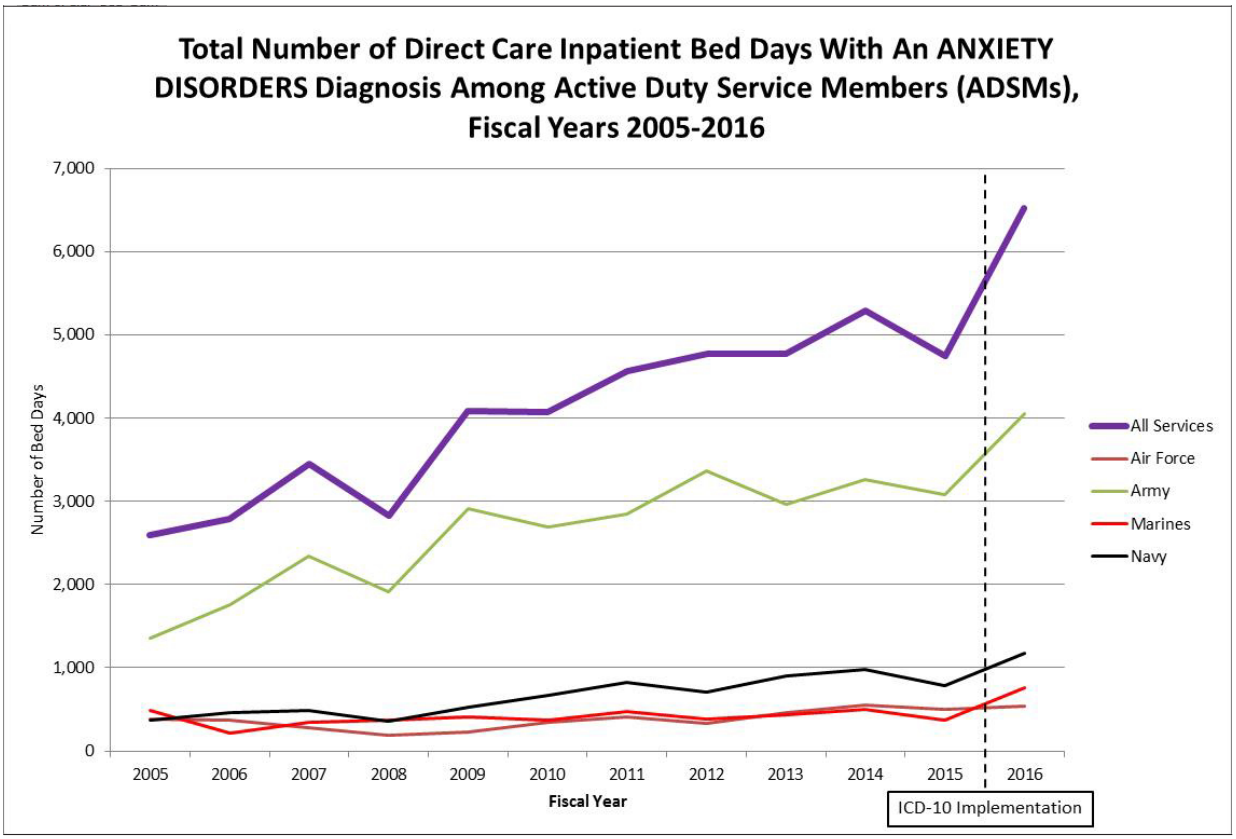


Inpatient Bed Days



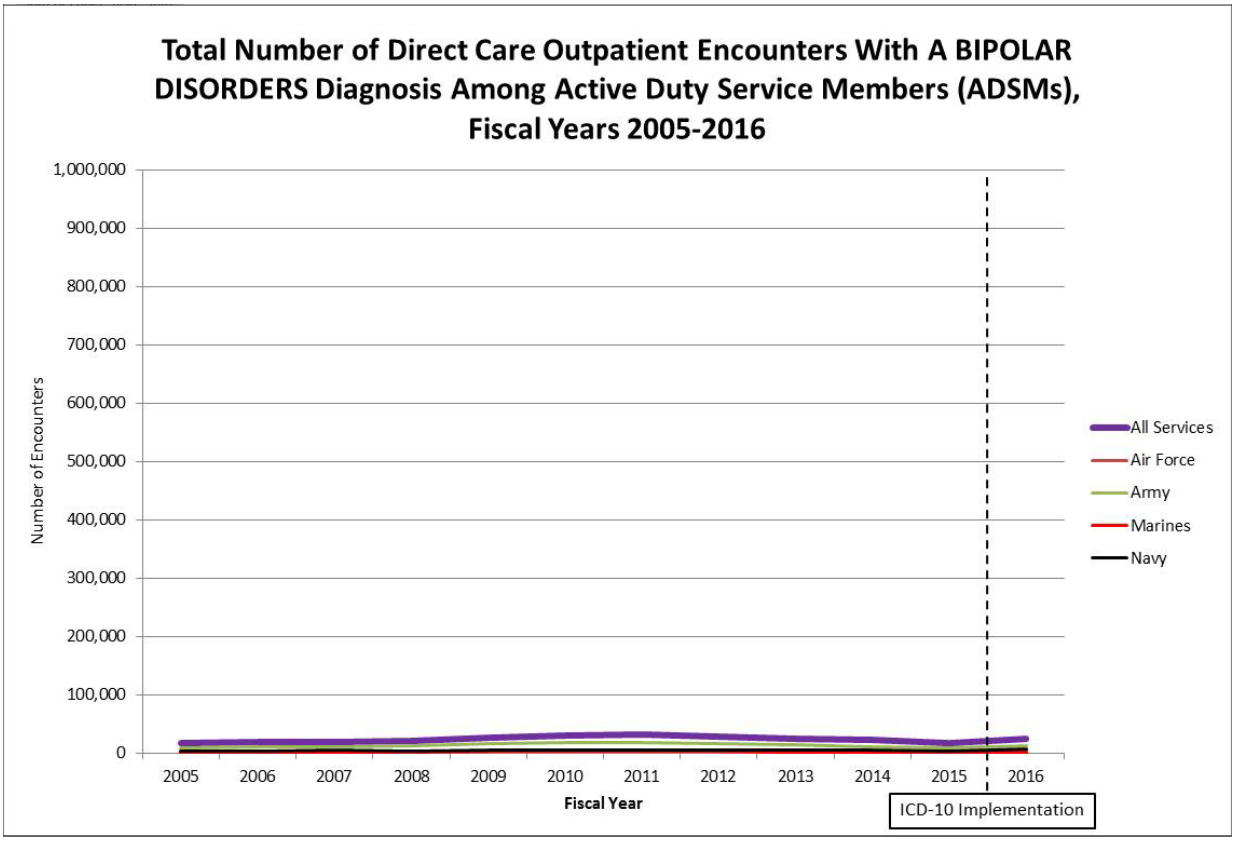
Bipolar Disorders

Definition

Bipolar disorders is a category of mood disorders defined by the occurrence of one or more episodes of abnormally elevated mood, clinically referred to as mania or, if mood elevations are milder, hypomania. Individuals who experience manic episodes also commonly experience depressive episodes or symptoms, or mixed episodes in which features of both mania and depression are present at the same time. The disorders are subdivided into bipolar I, bipolar II, and other types, based on the nature and severity of mood episodes experienced.[1,2]

The Numbers

Outpatient Encounters



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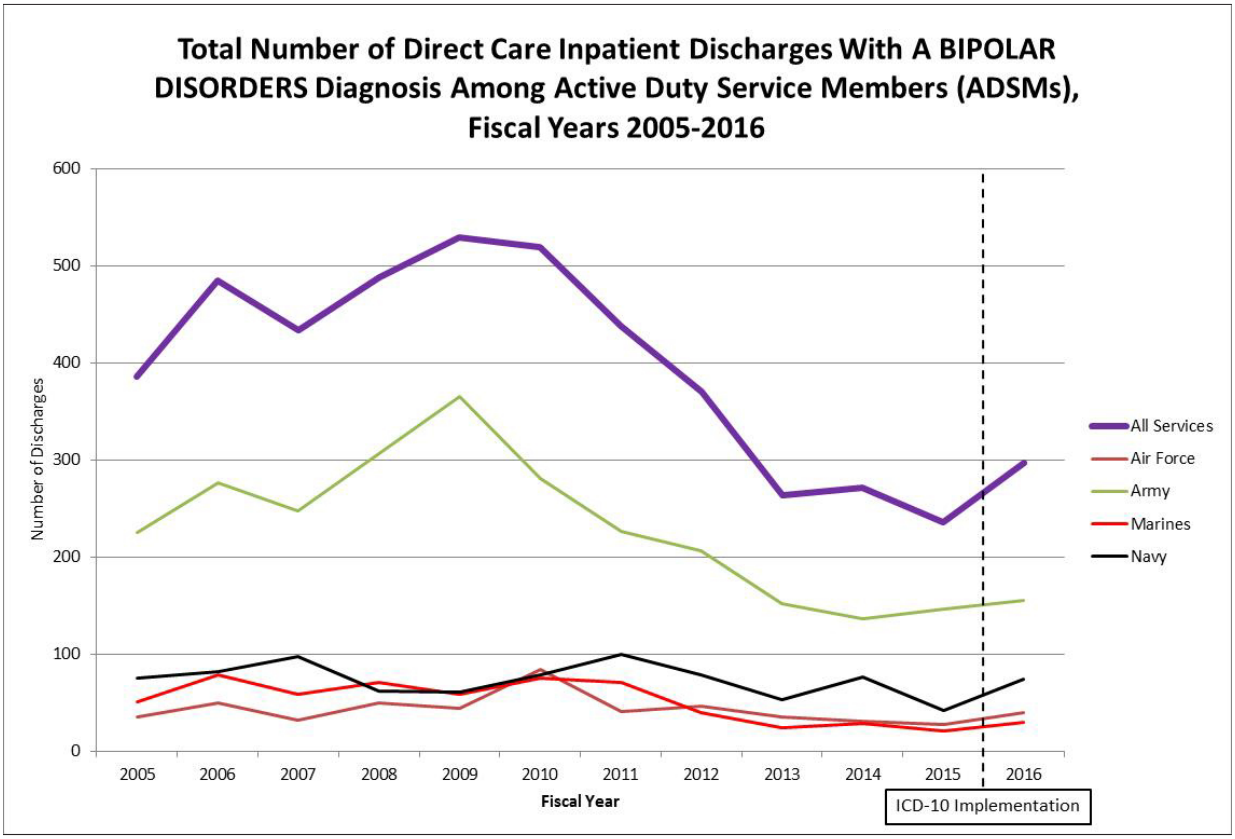
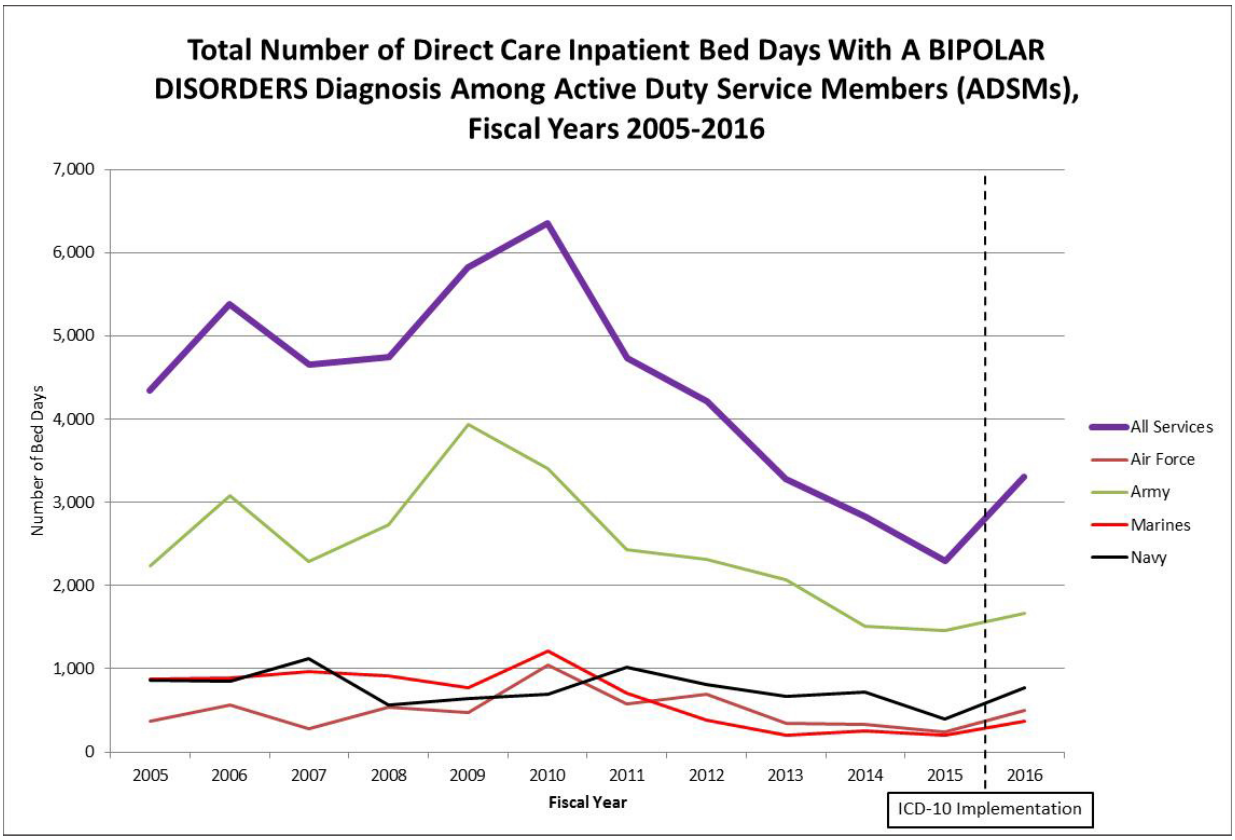


Inpatient Bed Days



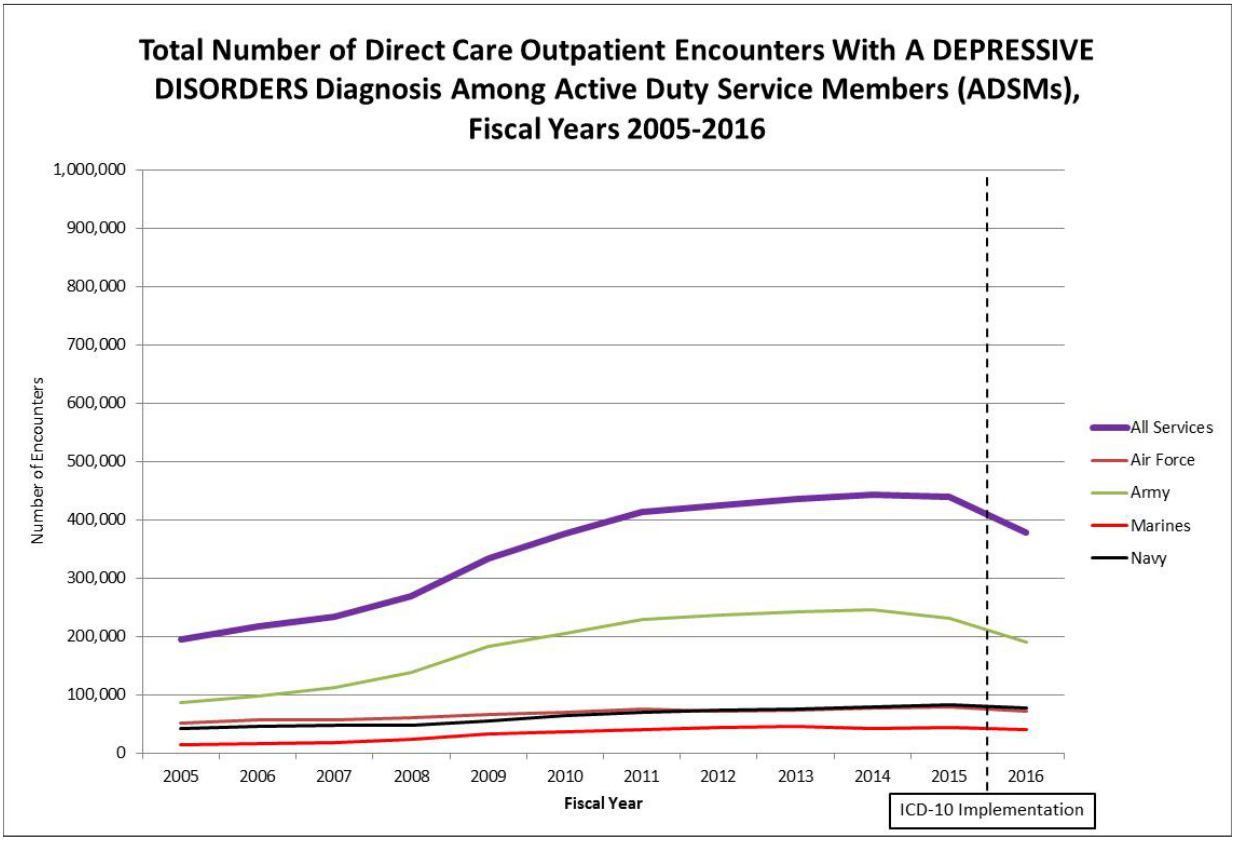
Depressive Disorders

Definition

Depressive disorders are mental illnesses characterized by a persistent, all-encompassing, low mood often accompanied by one or more of the following symptoms: weight loss or gain, insomnia or hypersomnia, psychomotor agitation or retardation, fatigue, loss of interest or pleasure in normally enjoyable activities, diminished ability to think or concentrate, feelings of worthlessness or excessive guilt, and recurrent thoughts of death or suicide. Major depressive disorder manifests as a moderate to severe episode of depression lasting two or more weeks, while dysthymic disorder is characterized by ongoing, chronic depression often lasting for two or more years.[1,2]

The Numbers

Outpatient Encounters



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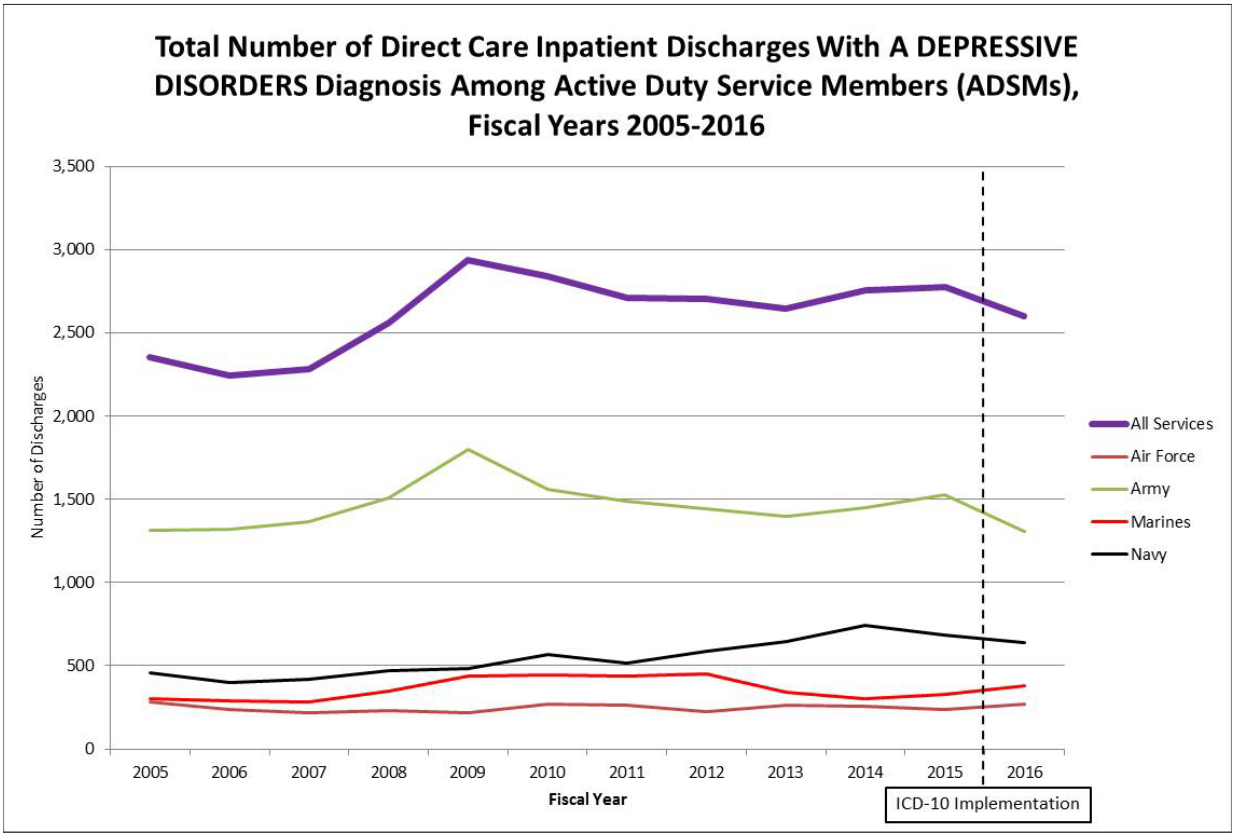

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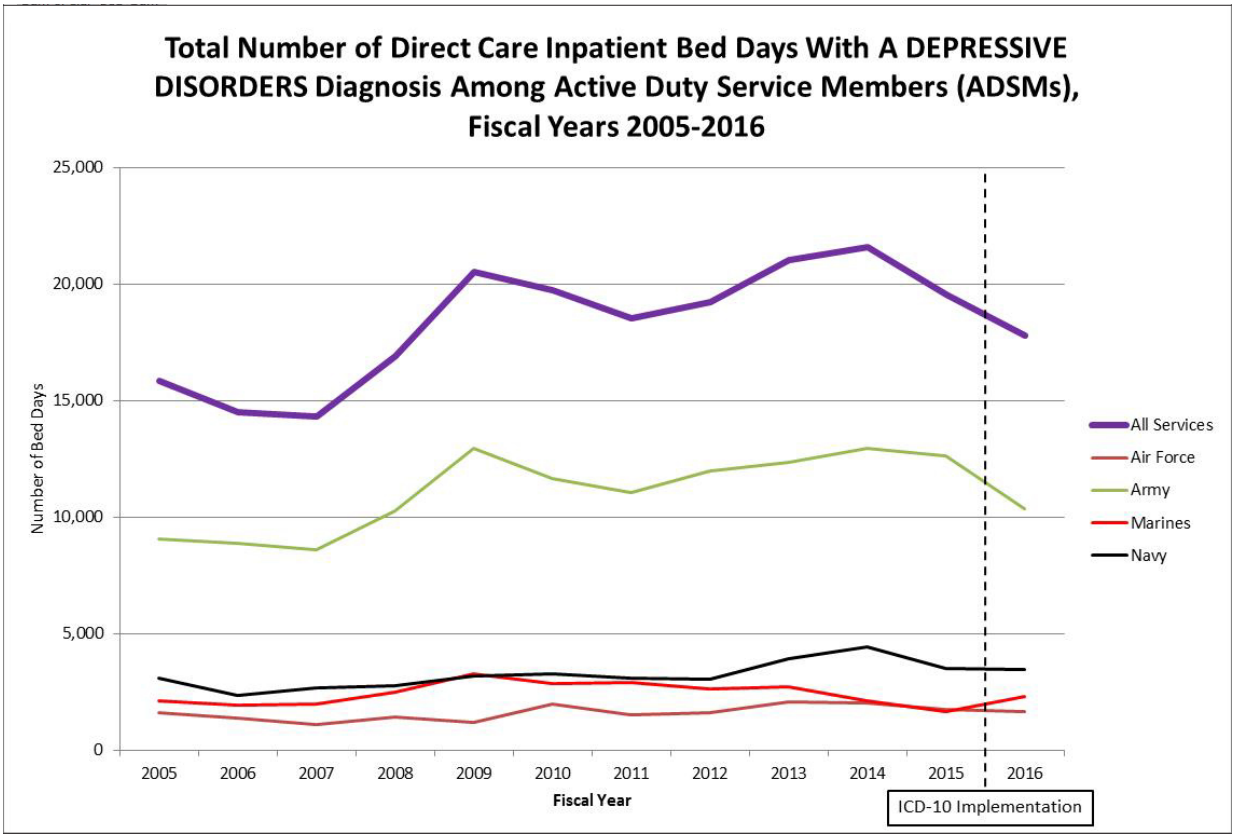


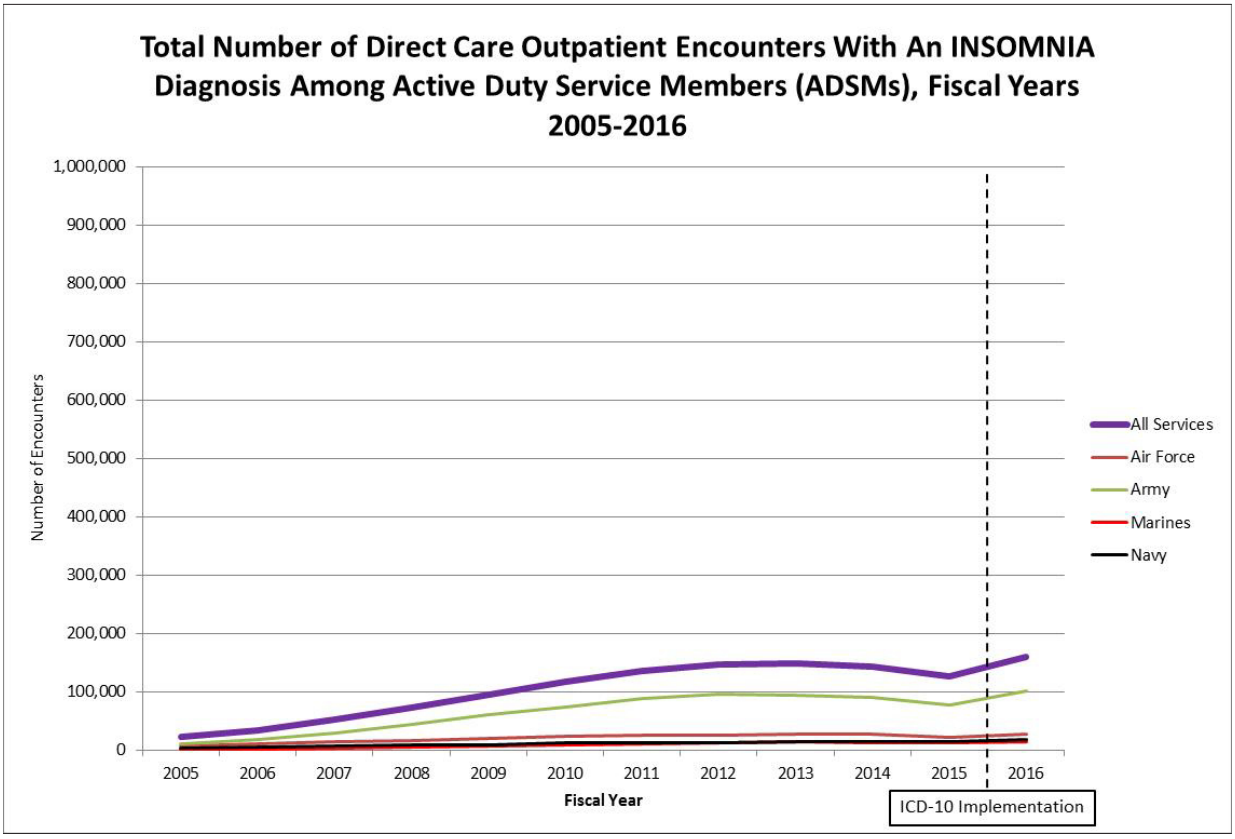
Insomnia

Definition

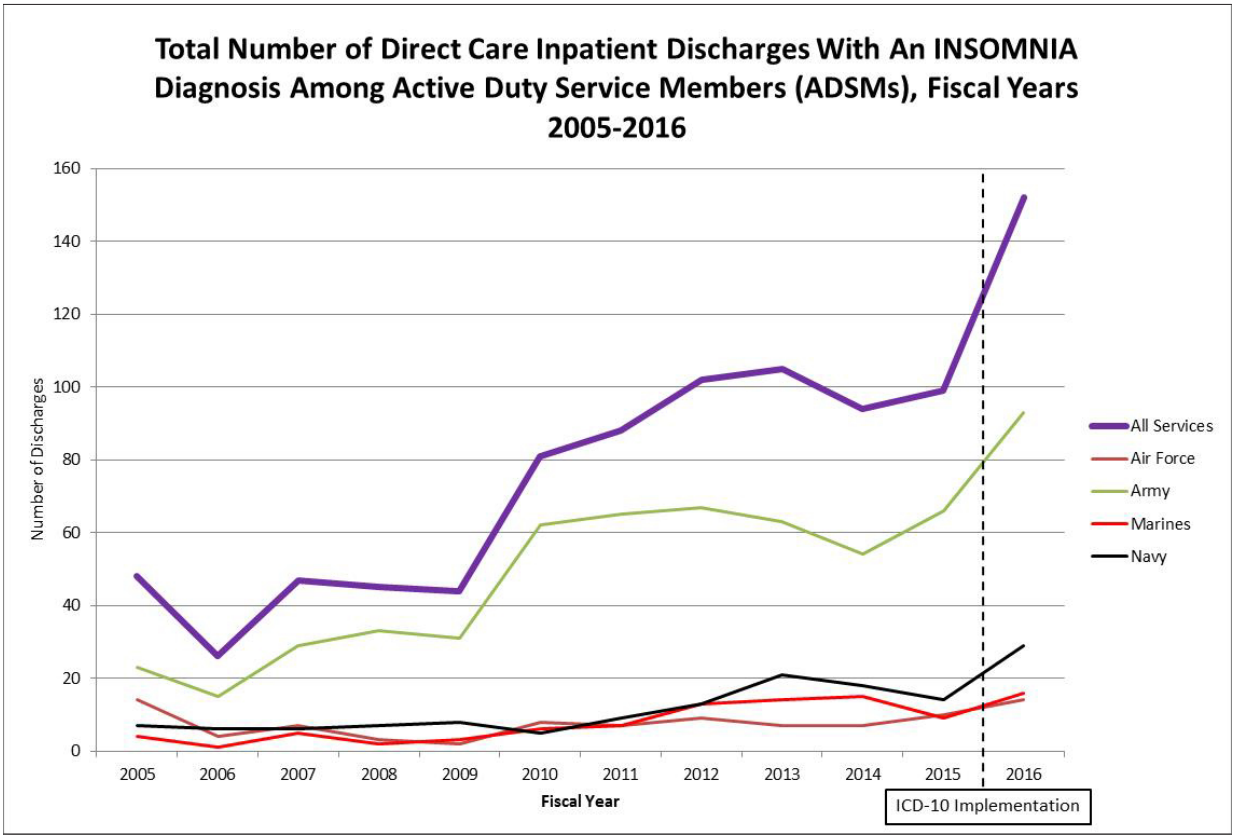
Insomnia is the inability to obtain an adequate amount or quality of sleep and the condition is the most common sleep disorder in adults in the United States. Symptoms include difficulty initiating sleep, early awakening, and non-restorative or poor quality sleep. Insomnia can occur as a "primary" condition or as a "secondary" condition meaning the cause is attributable to, or may coexist with, a specific medical, psychiatric or environmental condition. The diagnosis is more common in women and older adults and is often associated with occupational and environmental risk factors (e.g., military personnel on rotating shifts, night shift work, stress, and frequent moves, including deployment).[1,3,4]

The Numbers

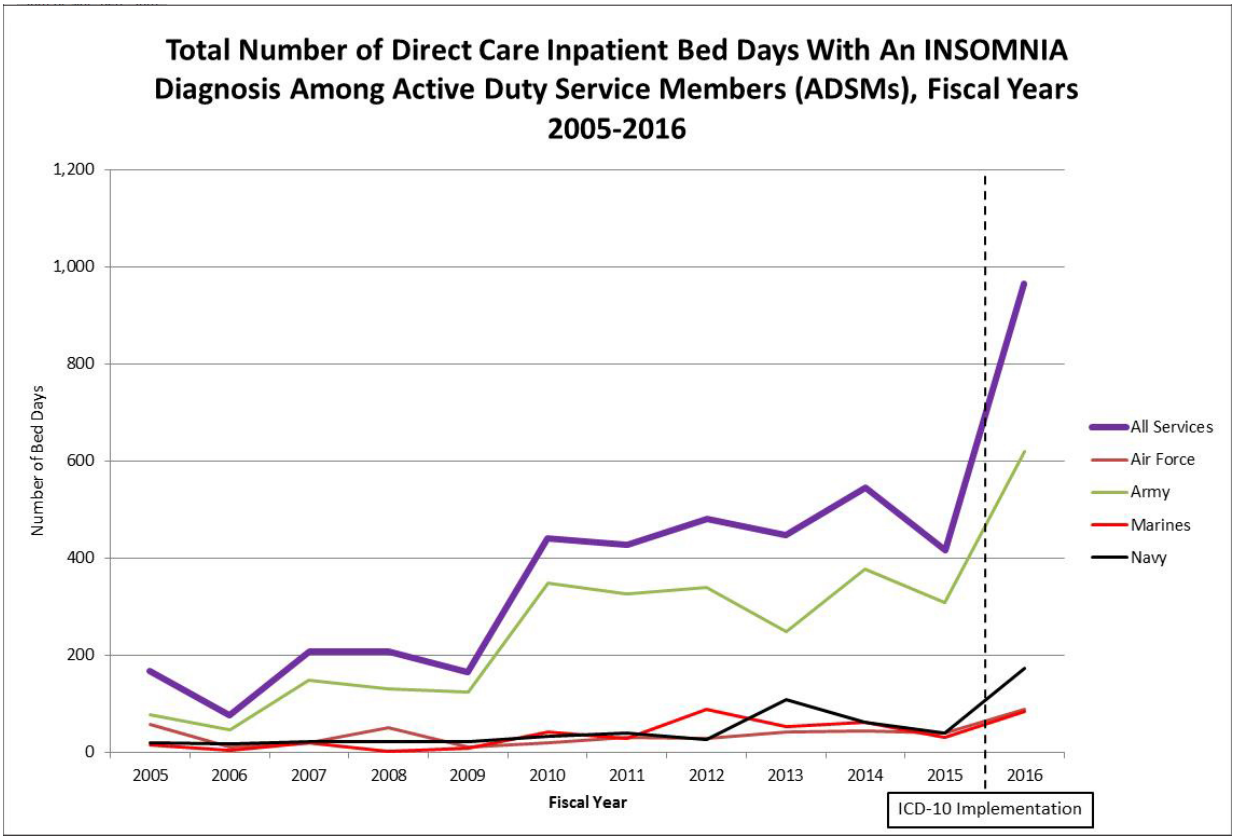
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



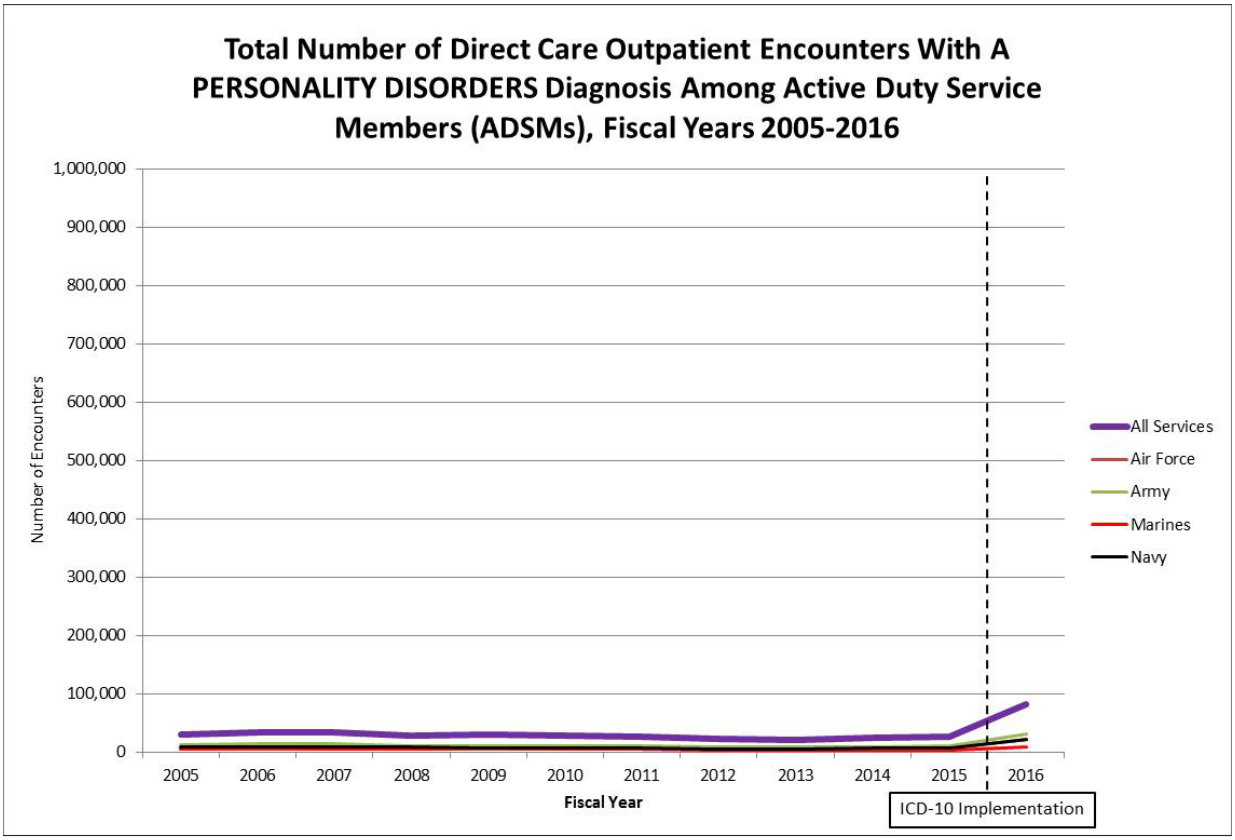
Personality Disorders

Definition

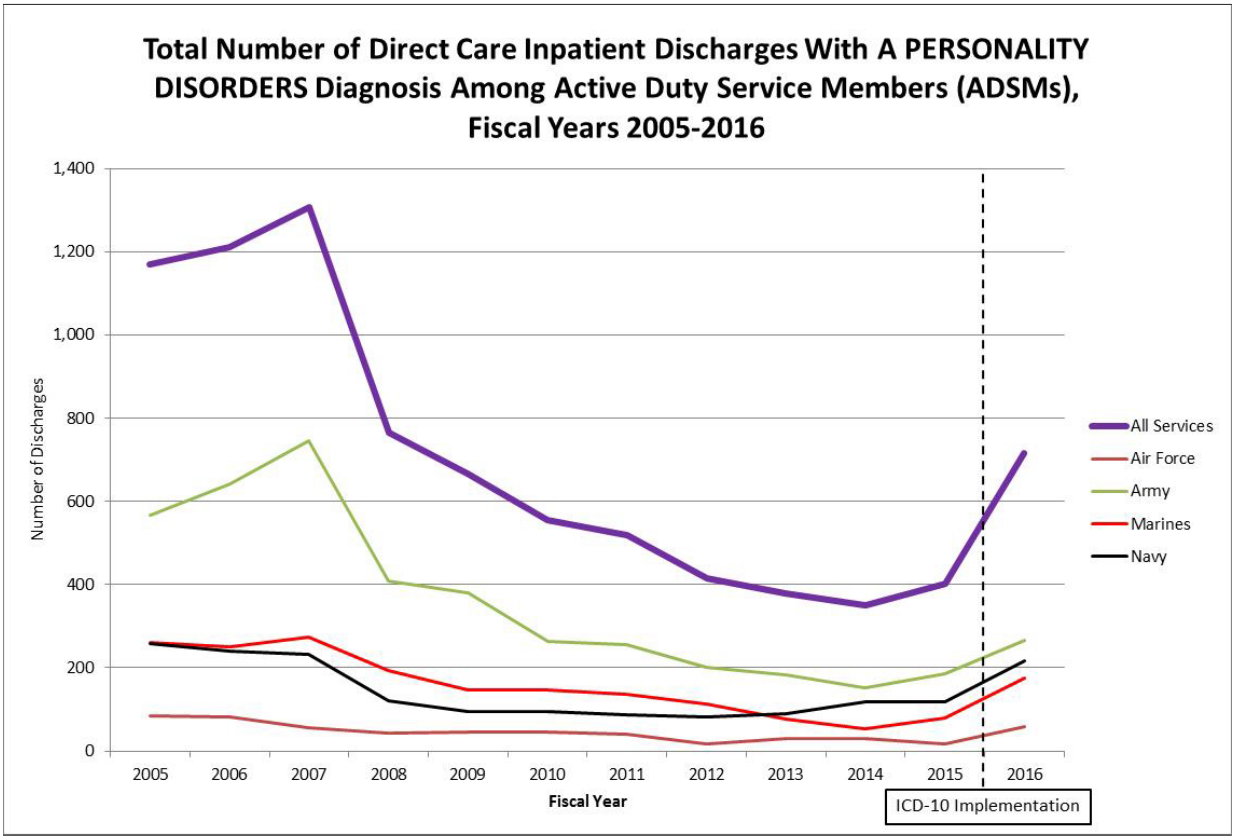
Personality disorders are a group of personality types that manifest as enduring patterns of psychological experience and behavior that markedly affect an individual's ability to function individually and interpersonally with others in social and occupational settings. In general, the behavior patterns are inflexible and pervasive across a wide range of situations and have often been present in the individual since adolescence or early adulthood. Currently the Diagnostic and Statistical Manual of Mental Disorders lists 10 personality disorders, grouped in three clusters: 1) odd or eccentric disorders which includes paranoid, schizoid, and schizotypal personality disorder; 2) dramatic, emotional or erratic disorders which include antisocial, borderline, histrionic, and narcissistic personality disorder; and 3) anxious or fearful disorders which include avoidant, dependent, and obsessive-compulsive personality disorder.[1,2]

The Numbers

Outpatient Encounters



Inpatient Discharges



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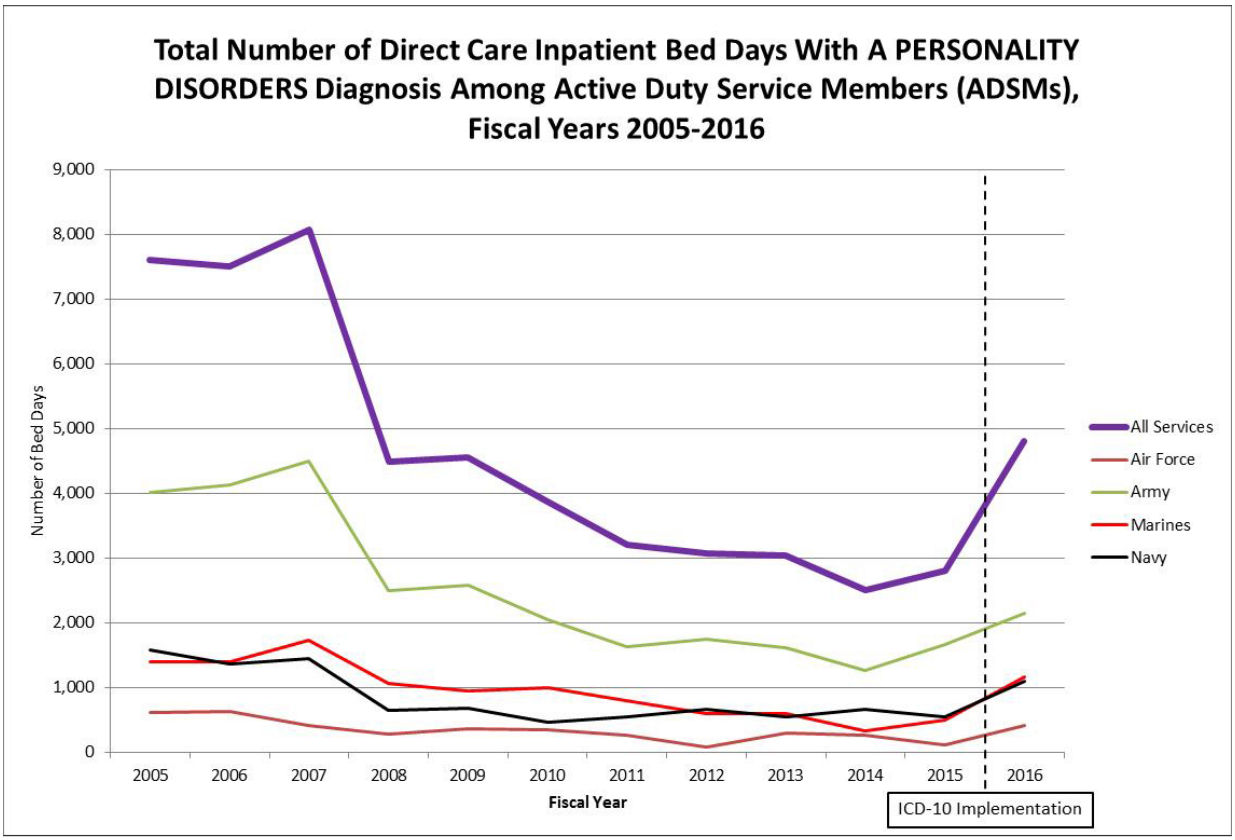


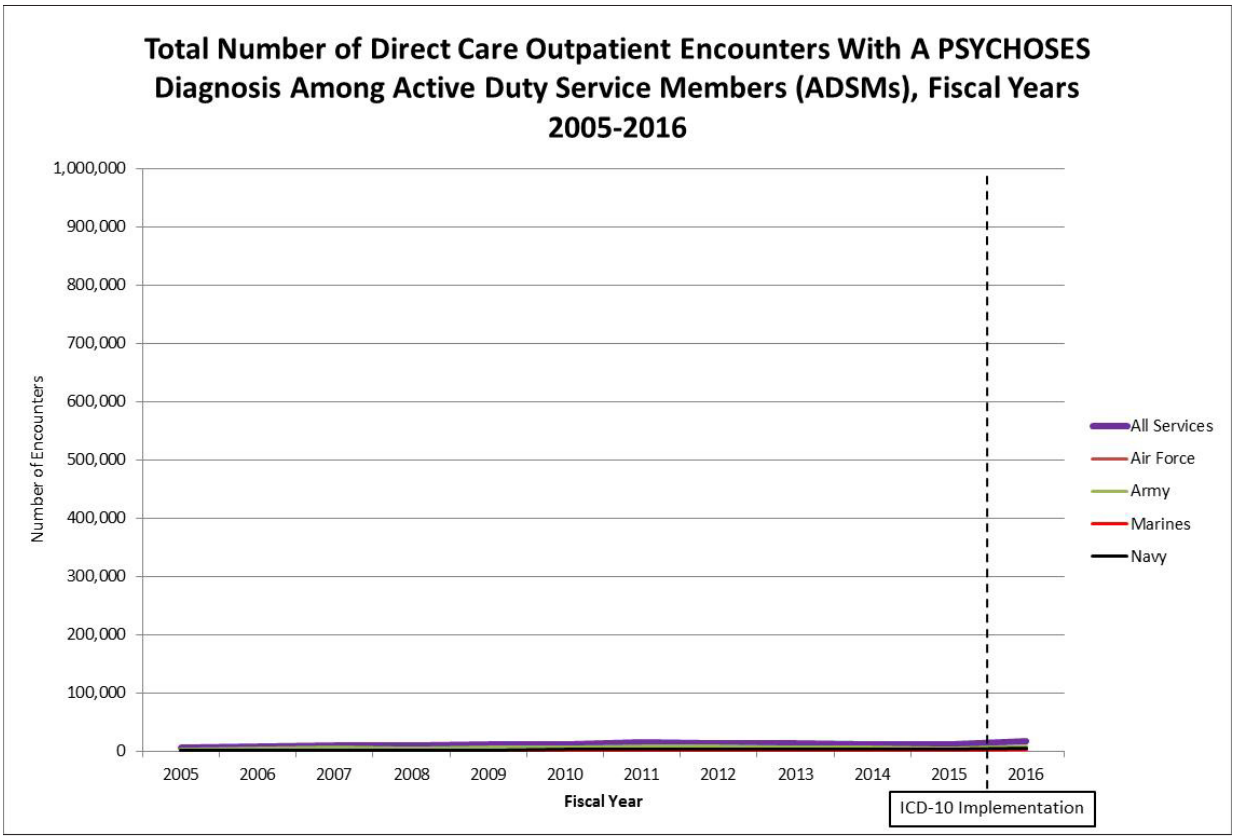
Psychoses

Definition

Psychoses are a component of certain serious mental disorders and are usually marked by an individual having false beliefs about what is taking place in reality. Psychotic symptoms often include delusions (believing something is true despite strong evidence to the contrary), hallucinations (seeing and hearing things that are not actually present), disorganized thoughts and speech, and disordered thinking.[1,2]

The Numbers

Outpatient Encounters



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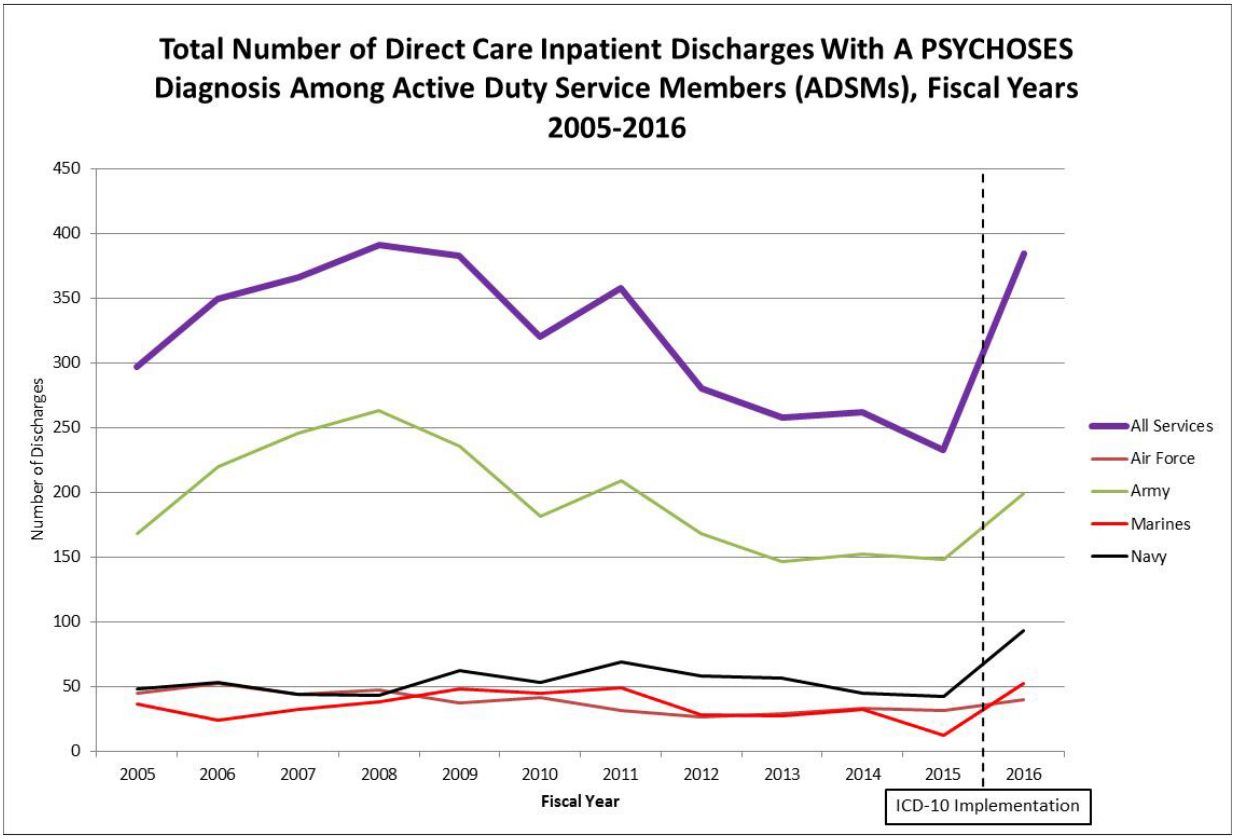

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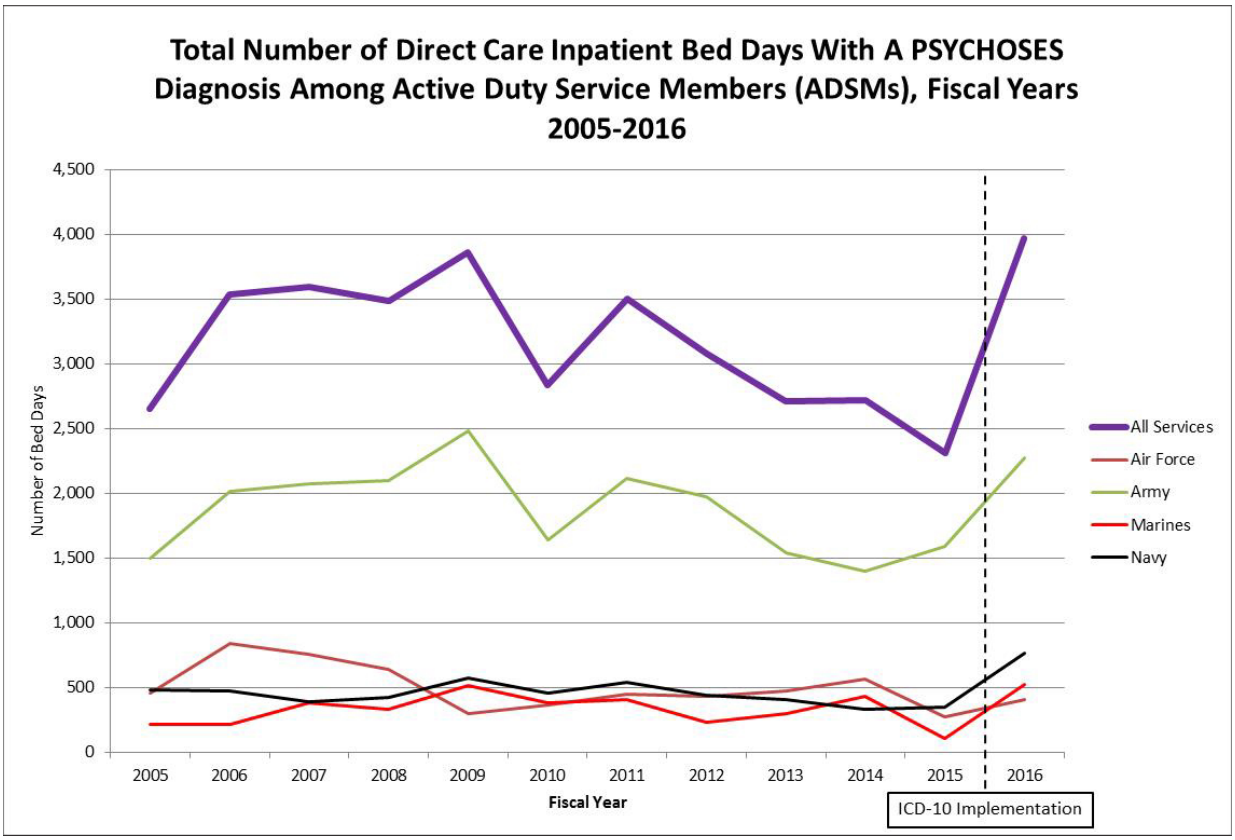


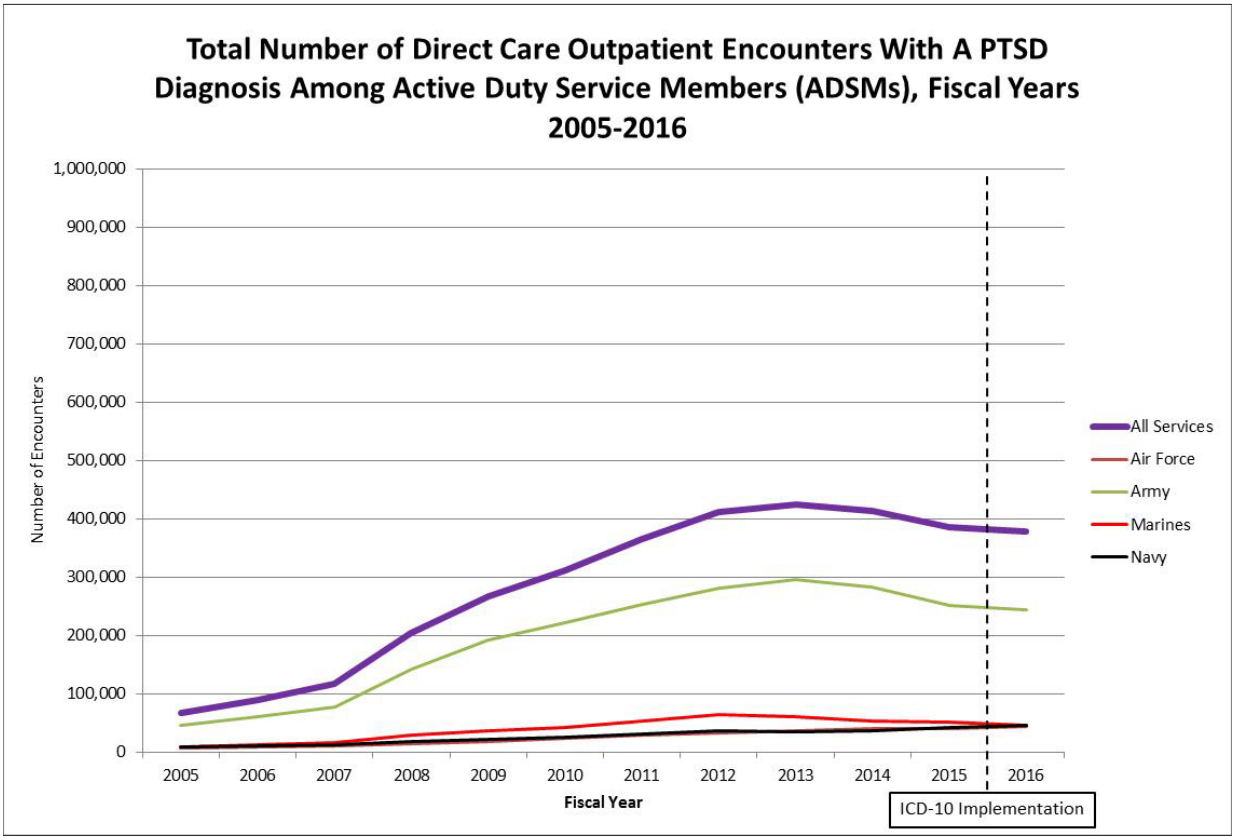
Posttraumatic Stress Disorder (PTSD)

Definition

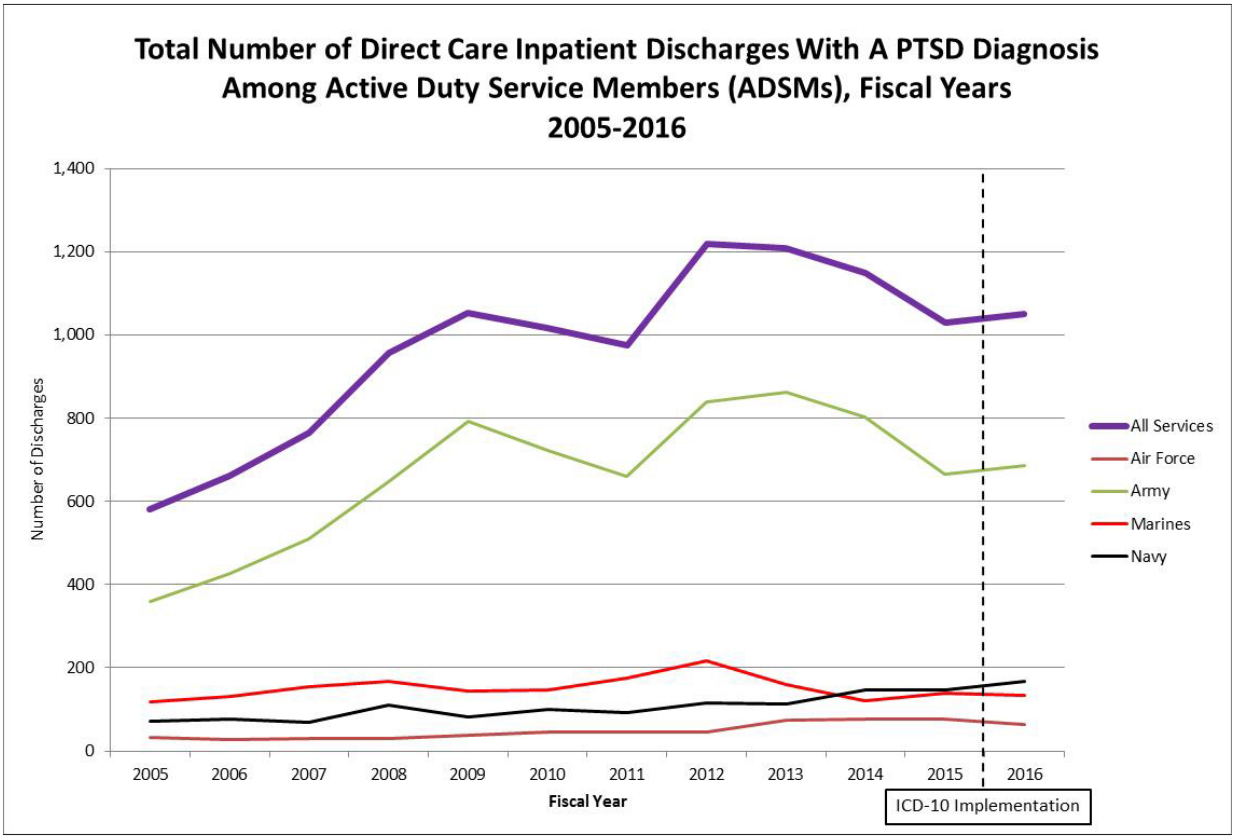
Posttraumatic stress disorder, commonly referred to by its acronym, PTSD, is a severe anxiety disorder that can develop after exposure to any event that causes psychological trauma. The event may involve the threat of death to oneself or to someone else, or a threat to one's own or someone else's physical, sexual, or psychological integrity, overwhelming the individual's psychological defenses. Symptoms include re-experiencing the original trauma(s) through flashbacks or nightmares, avoidance of stimuli associated with the trauma, and increased arousal manifest as difficulty falling asleep or staying asleep, anger, or hypervigilance. Formal diagnostic criteria are dependent upon the duration of symptoms, and the associated impairment in social, occupational, or other important areas of functioning, (e.g., problems with work and relationships).[1,2]

The Numbers

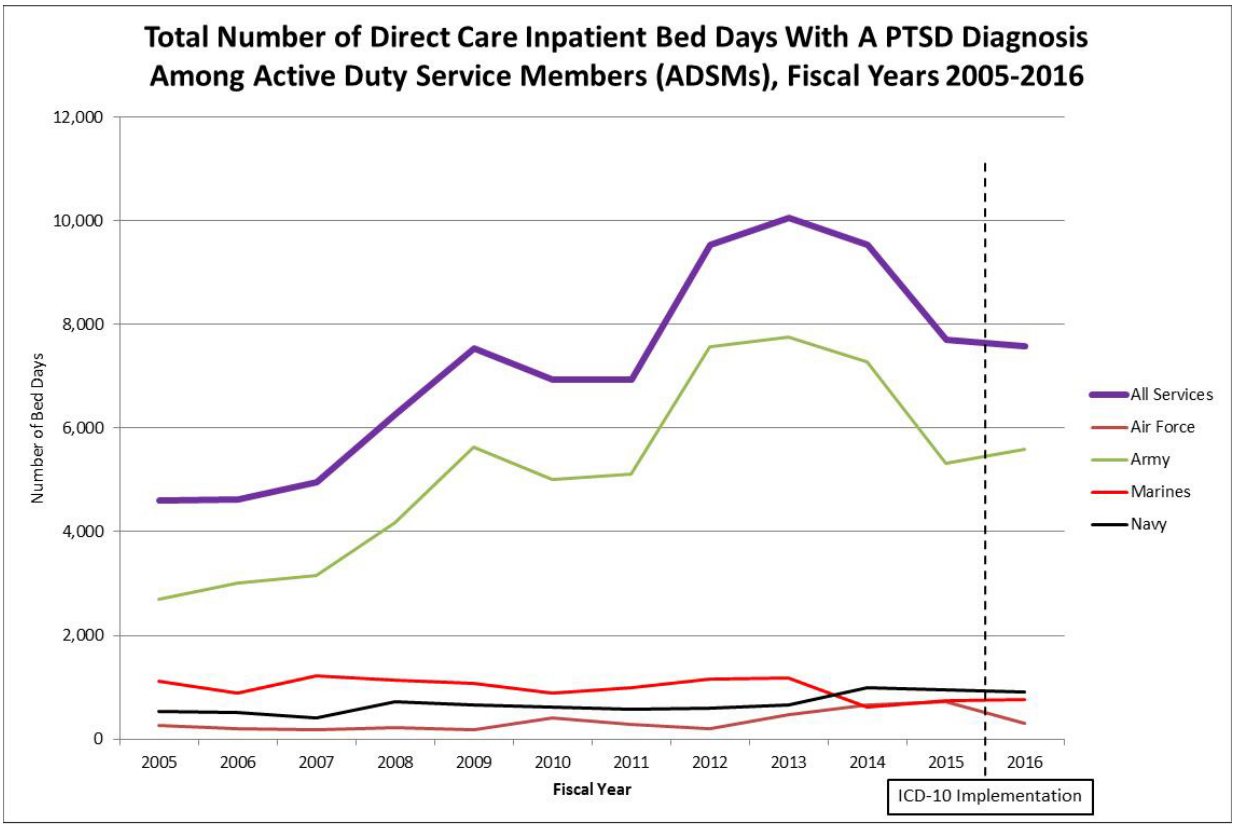
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



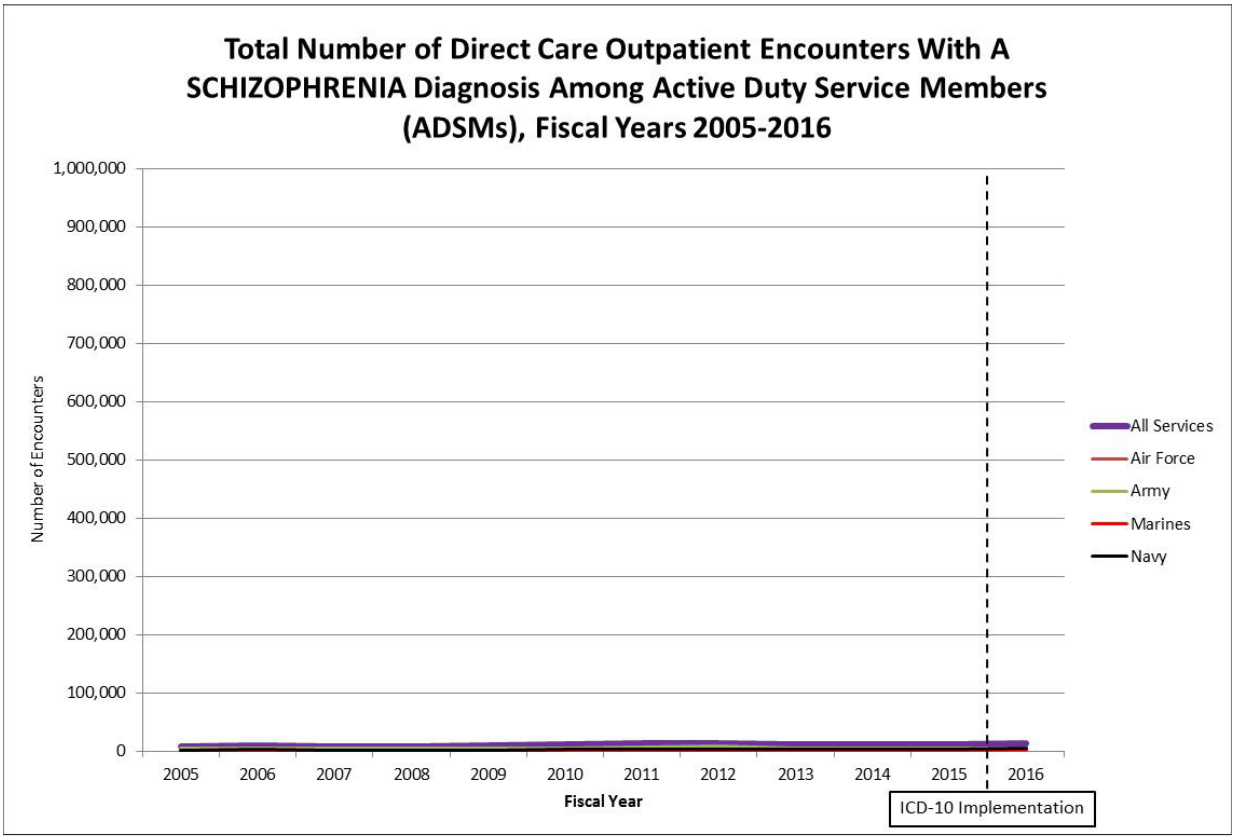
Schizophrenia

Definition

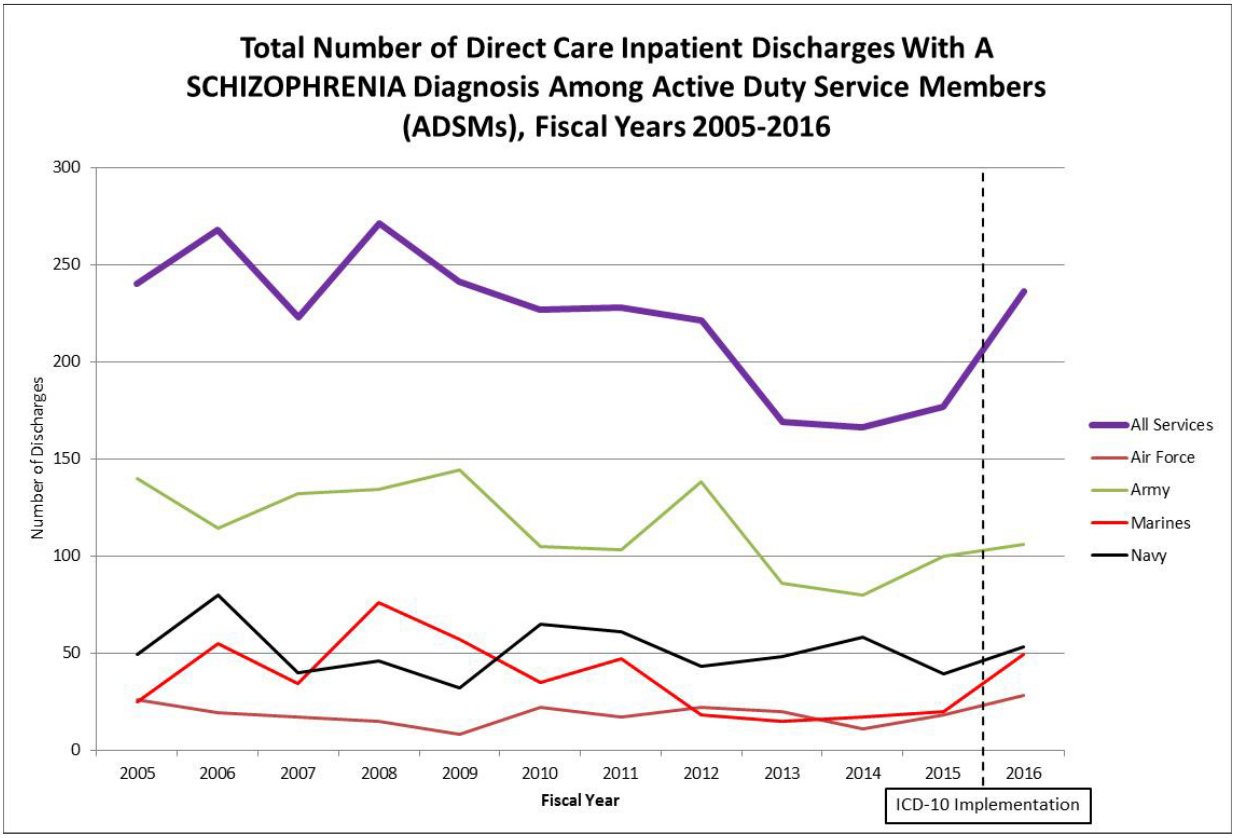
Schizophrenia is a severe, frequently unremitting mental illness that involves symptoms of hallucinations, delusions, paranoia, disorganized speech, and other disorganized behavior. The etiology is unknown although genetic and environmental risk factors have been identified. Symptom onset is insidious, often beginning in adolescence and progressing until symptoms become severe enough to require medical attention. The syndrome usually significantly affects occupational and social interactions, and earlier age at onset is associated with greater morbidity.[1,2] Complete remission of the disorder is rare.

The Numbers

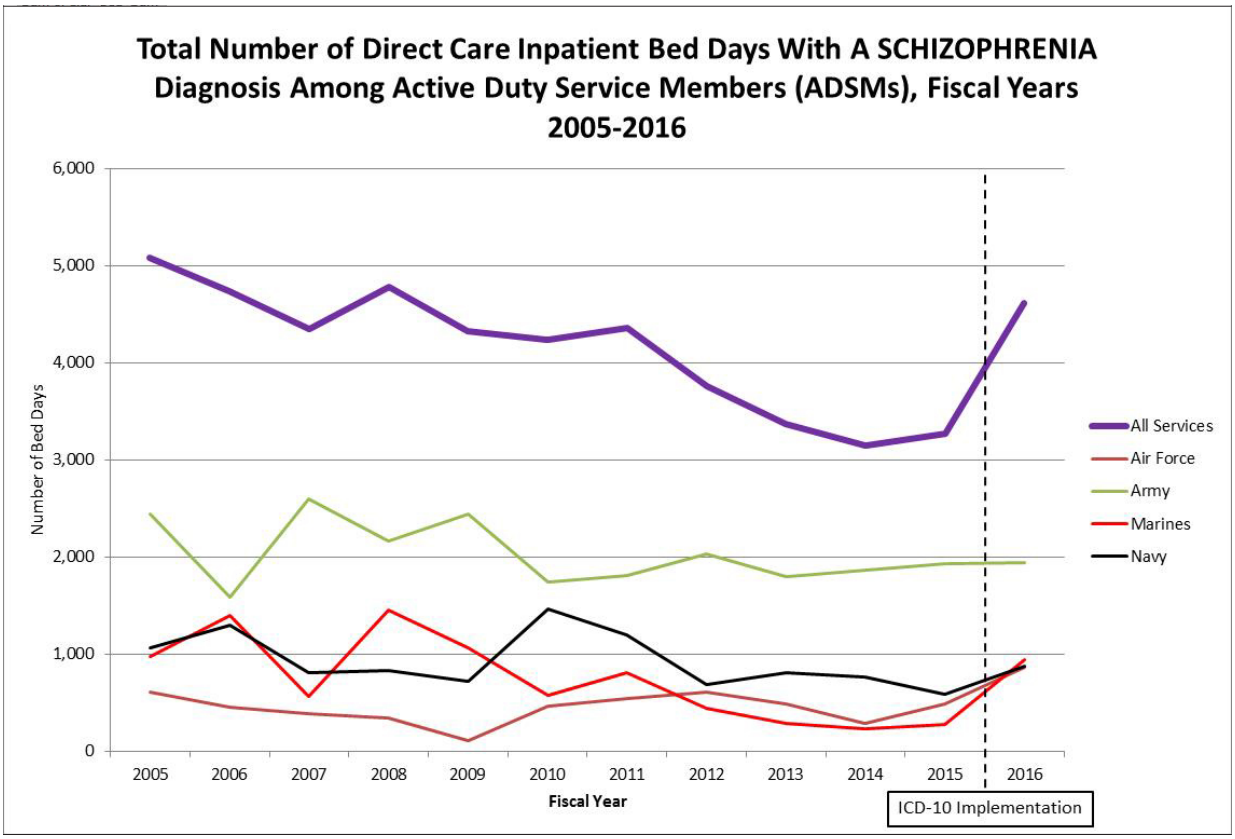
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



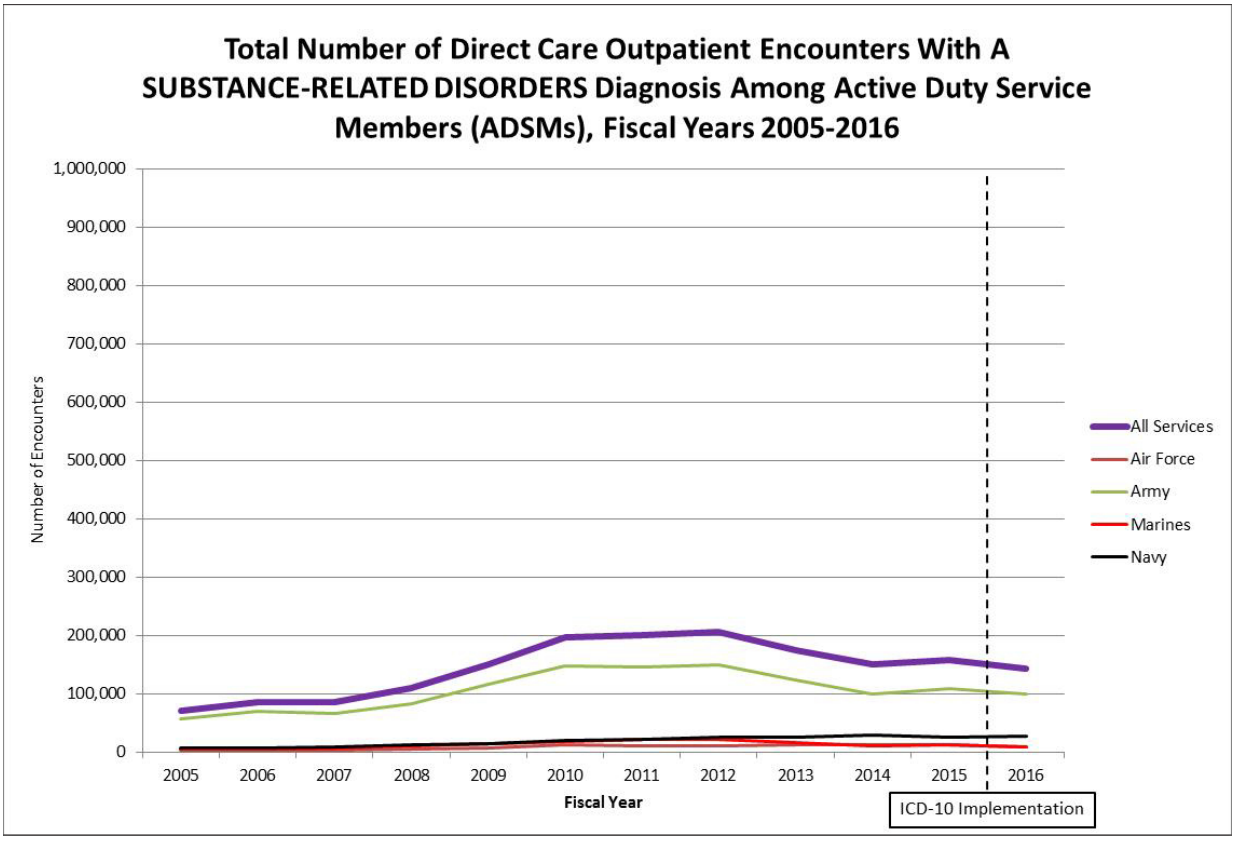
Substance-related Disorders

Definition

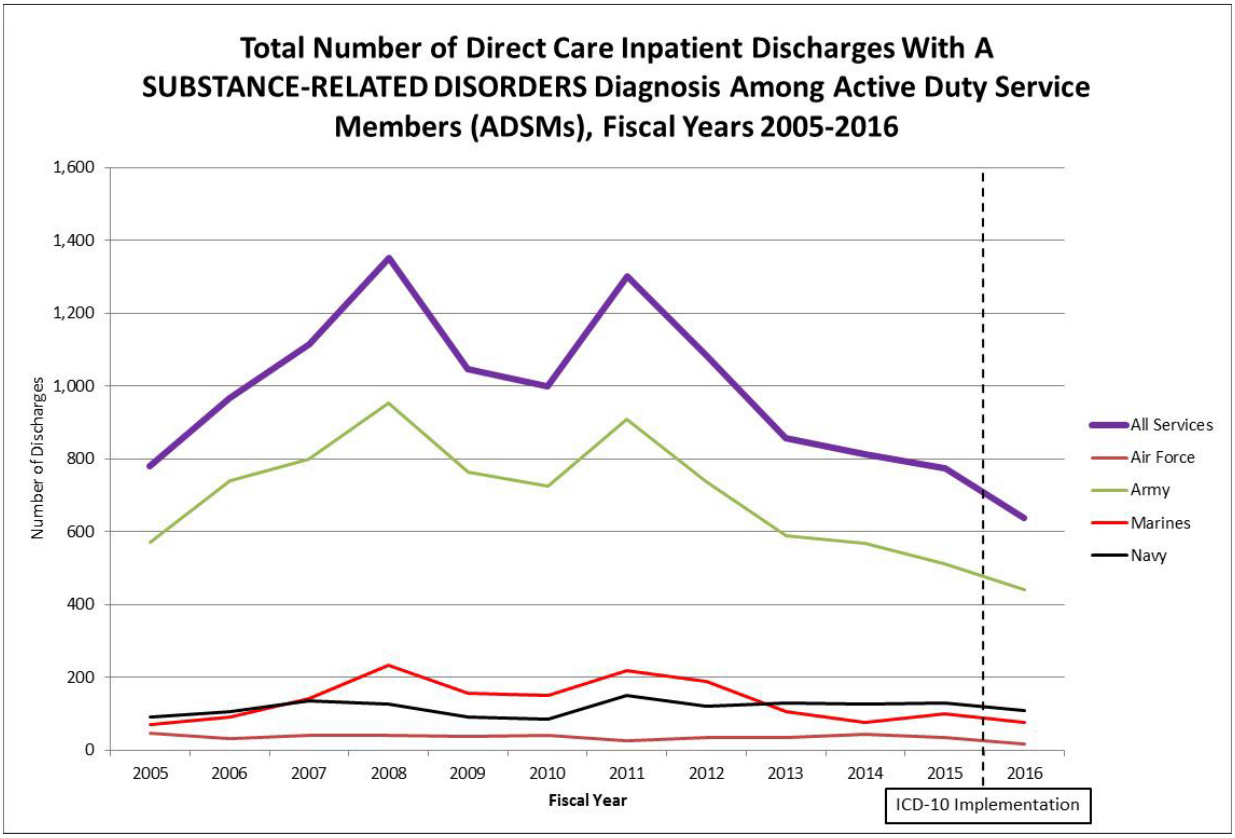
Substance-related disorders include both substance abuse and substance dependence, which will be defined in the following two sections. This definition does not include tobacco use disorders or alcohol-related disorders.

The Numbers

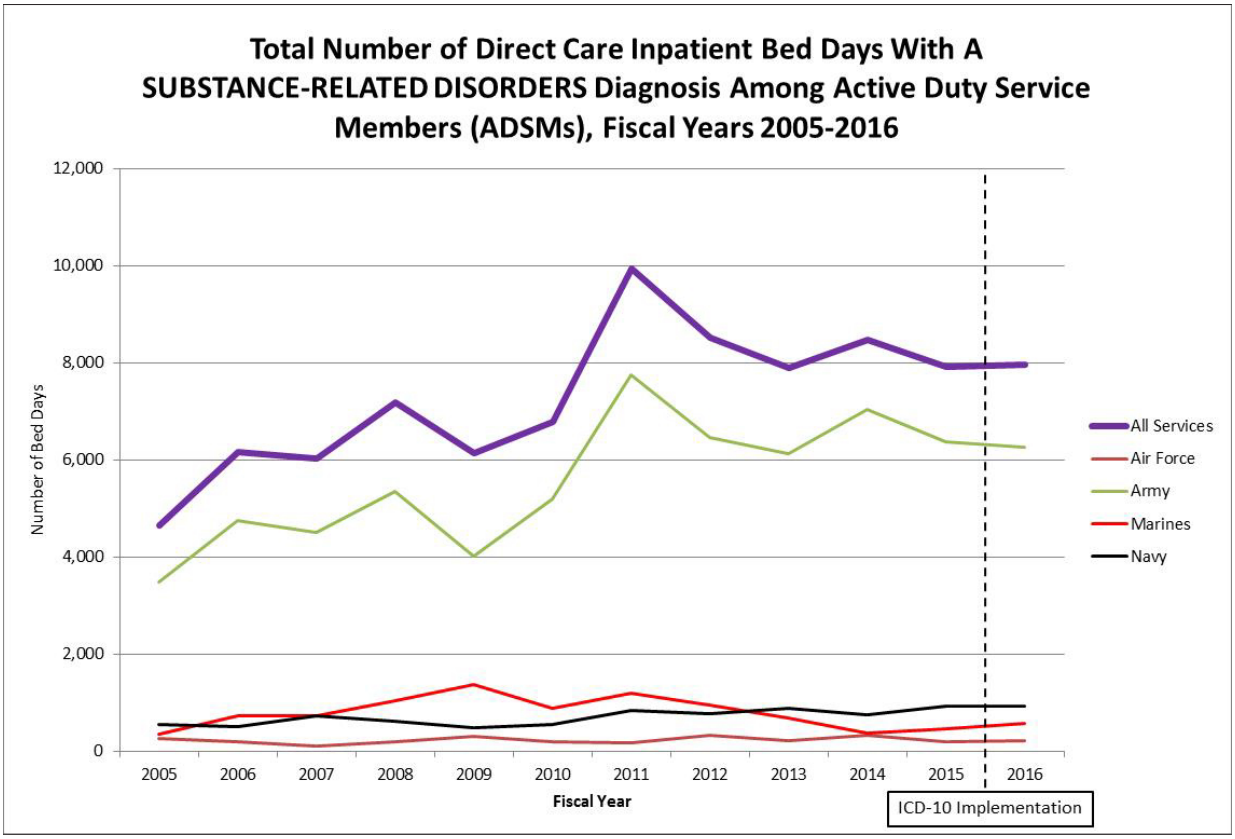
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



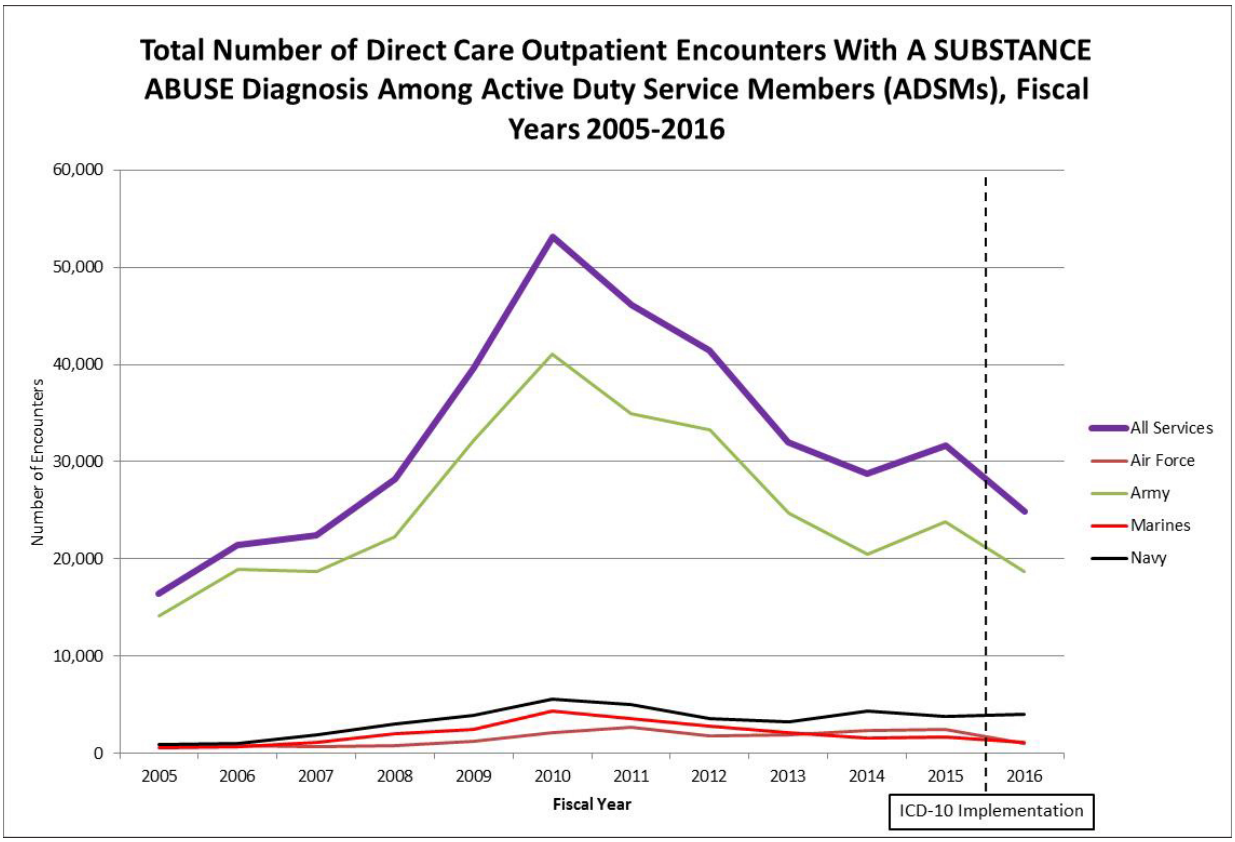
Substance Abuse

Definition

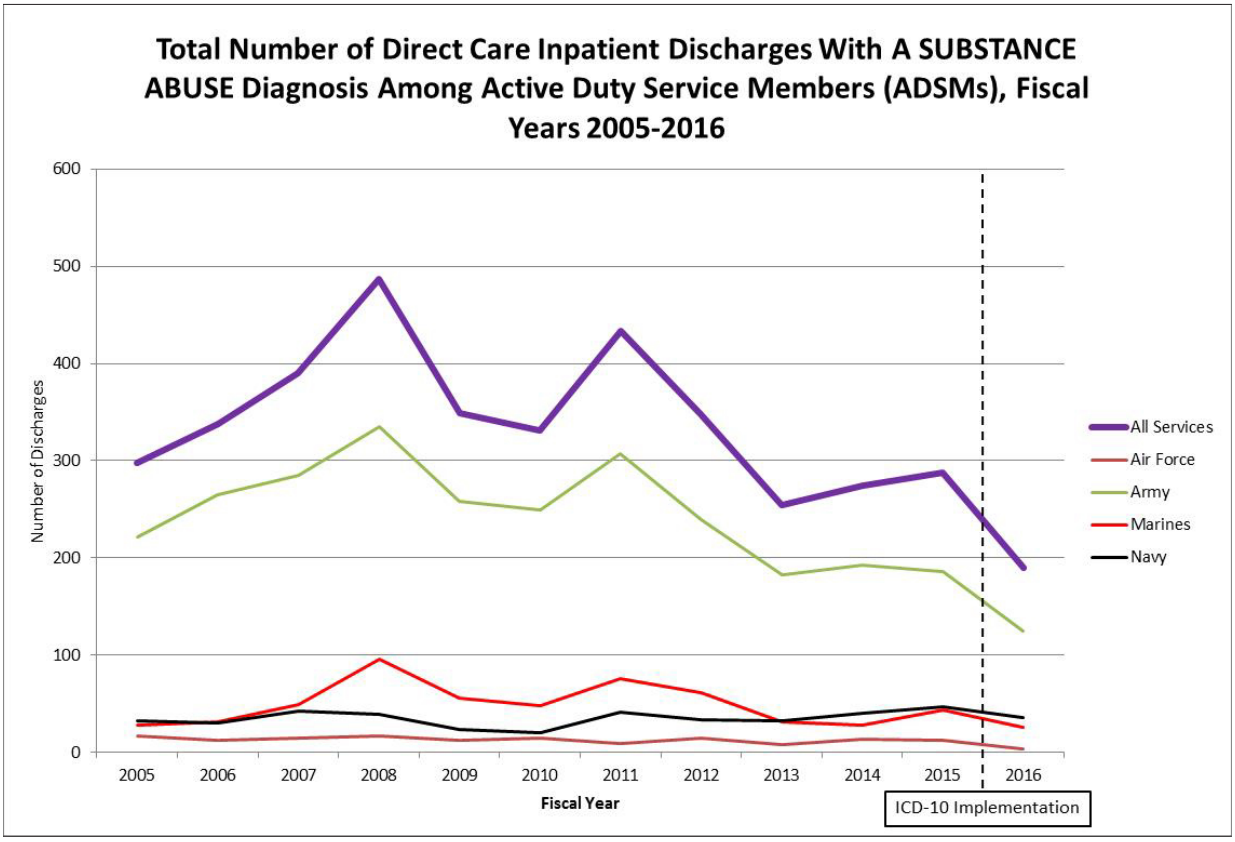
Substance *abuse* is a maladaptive pattern of substance use leading to clinically significant impairment or distress. The abuse is usually manifested by one or more of the following, occurring within a 12-month period: recurrent substance use resulting in a failure to fulfill major role obligations, use in situations that are physically hazardous, substance-related legal problems, and continued substance use despite persistent or recurrent social and interpersonal problems caused or exacerbated by the effects of the substance.[1,2]

The Numbers

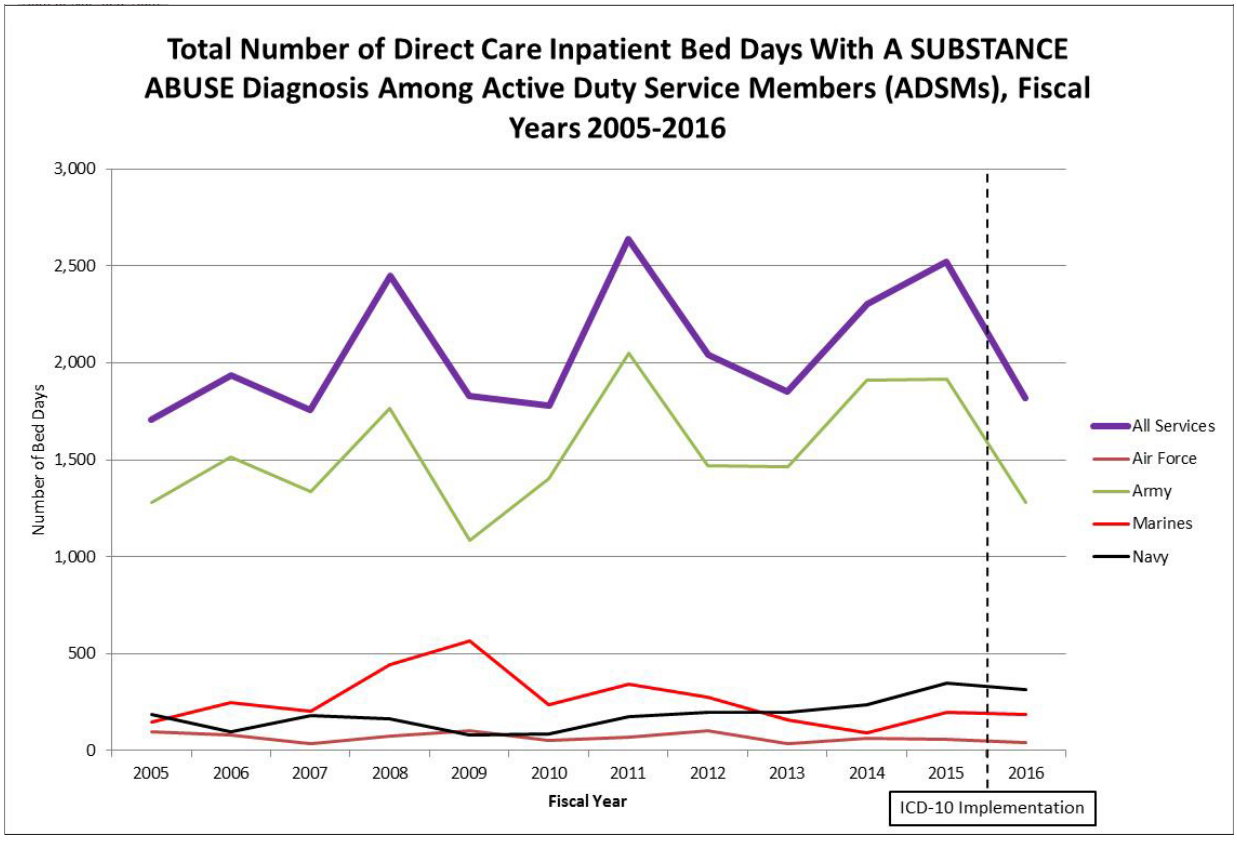
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



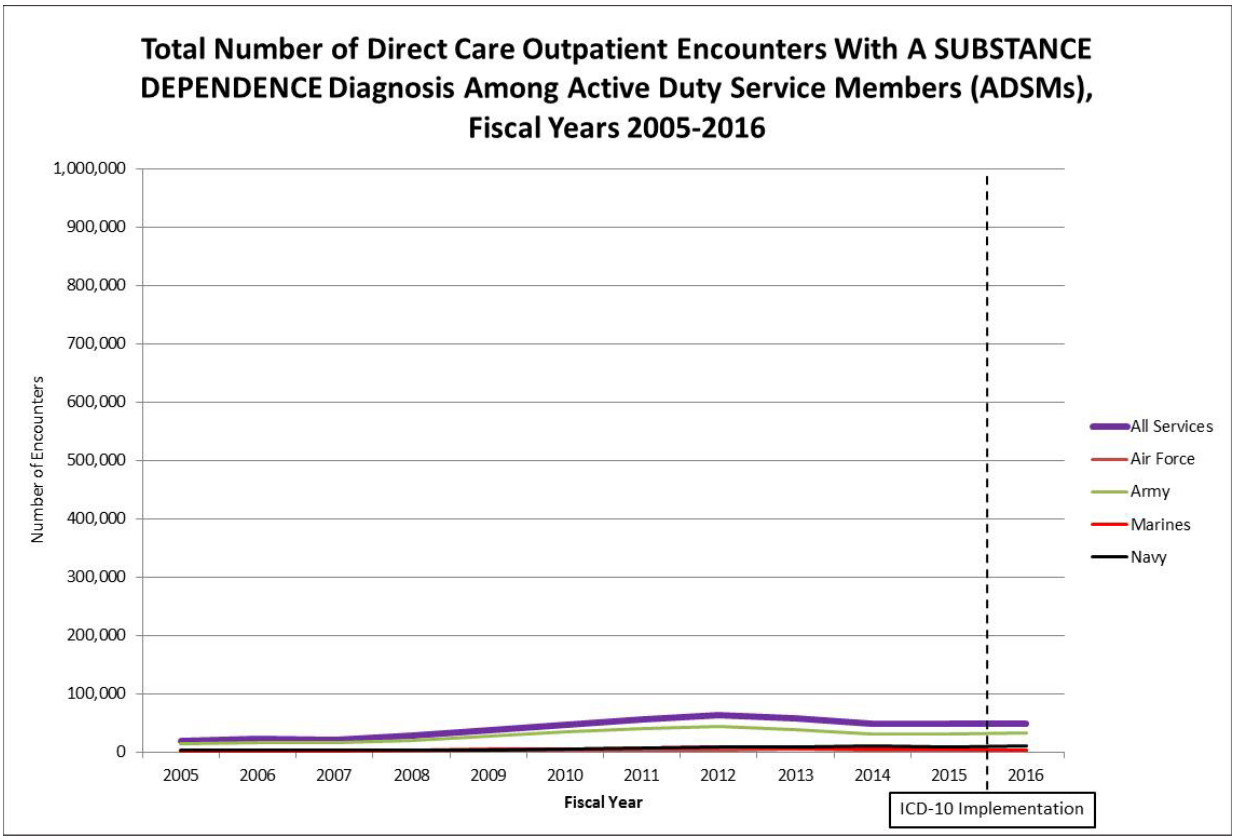
Substance Dependence

Definition

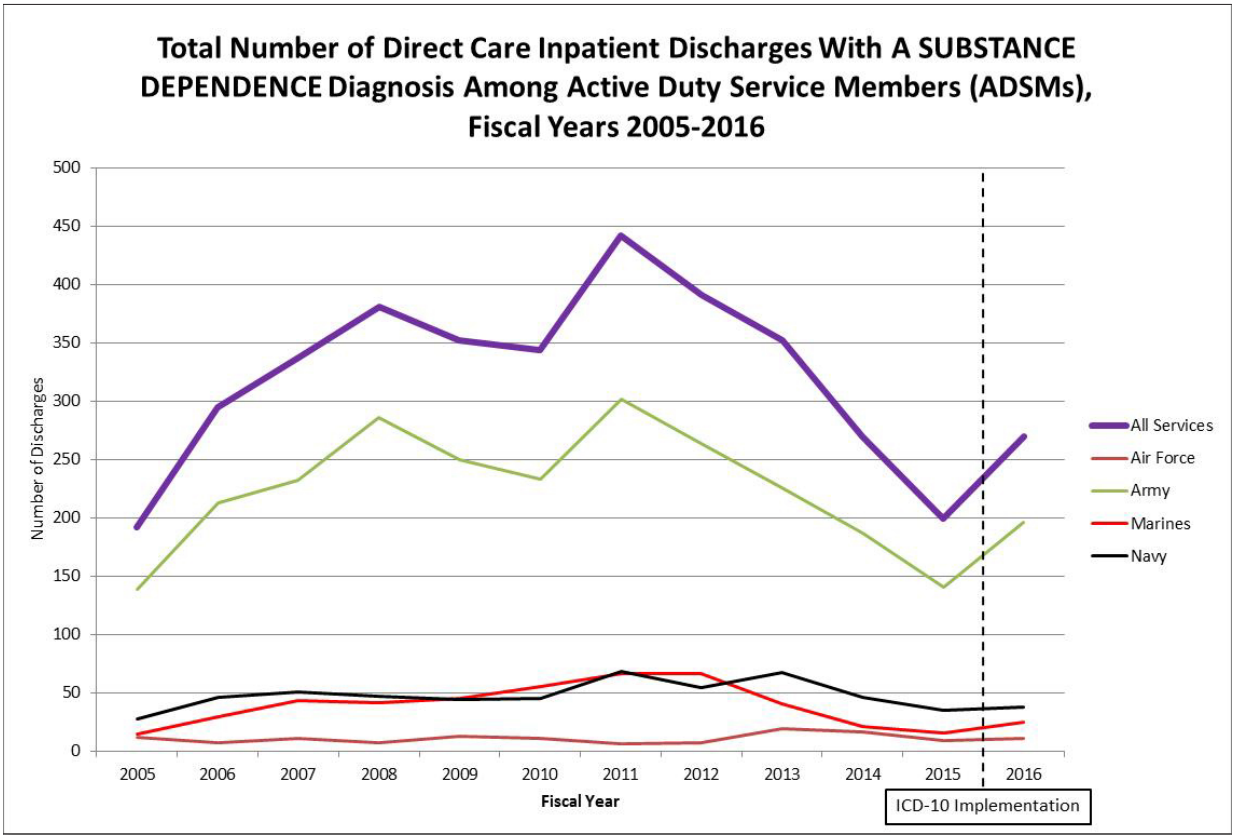
Substance *dependence* is a maladaptive pattern of substance abuse leading to clinically significant impairment, distress, and hardship. There is a pattern of repeated substance use that often results in tolerance, withdrawal, and compulsive substance use behavior. There are persistent desires and unsuccessful efforts to cut down or control use, and a great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects. Denial of a substance abuse-related problem is an inherent component of dependence.[1,2]

The Numbers

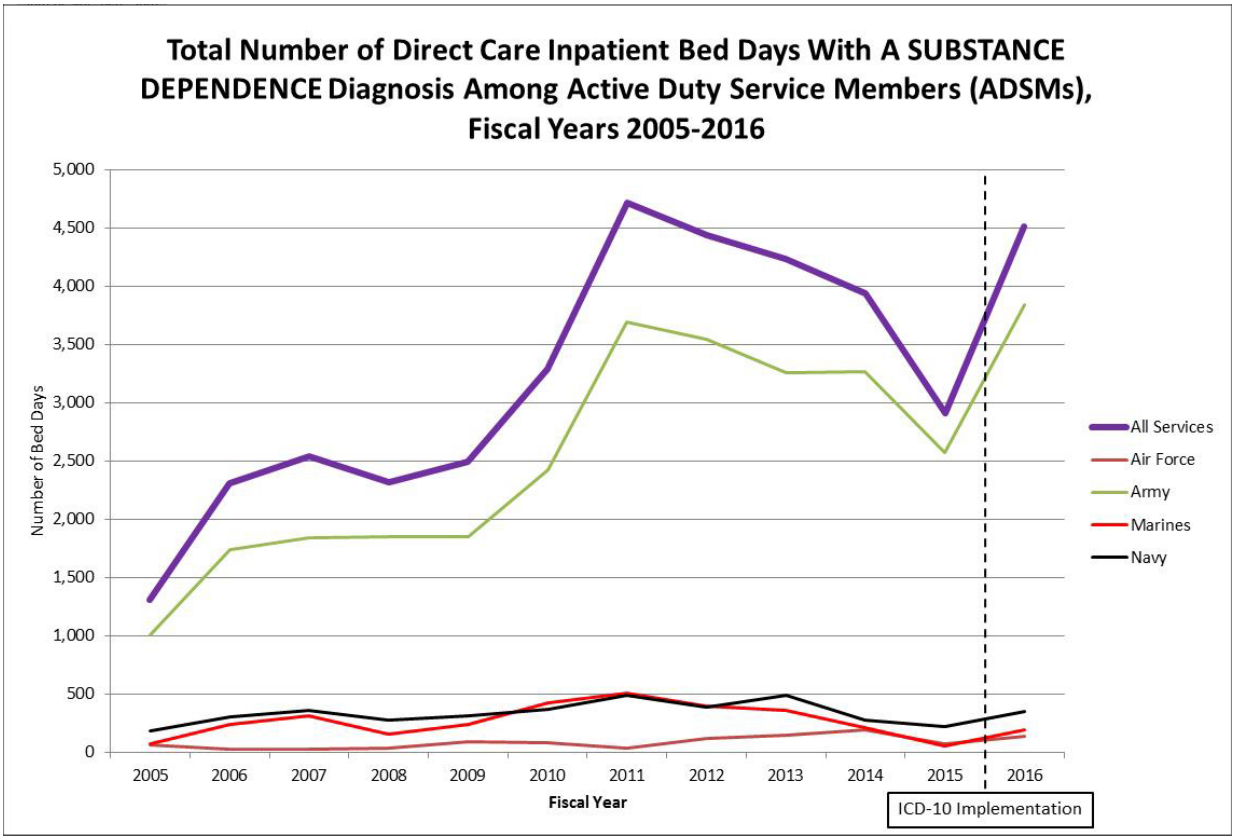
Outpatient Encounters



Inpatient Discharges



Inpatient Bed Days



Main Findings

- The Army had the greatest number of outpatient encounters, inpatient discharges and inpatient bed days across all mental health disorders for all fiscal years from 2005 to 2016. Of note, the Army has a much higher ADSM population than the other three services, and it also comprises a higher percentage of the ADSM population diagnosed with a mental health disorder than the other services. The relatively high mental health care utilization reported in the Army is most likely due to these factors. This report does not describe average mental health care utilization per diagnosed patient, and therefore the higher overall utilization in the Army should not be conflated to mean a higher utilization per capita.
- Active duty service members utilized the most inpatient and outpatient direct care services for alcohol-related disorders, adjustment disorders, anxiety disorders and posttraumatic stress disorder.

IV. Suggested Future Directions

1. Assess the types and frequencies of health care visits that occur among diagnosed ADSMs by mental health disorder. Specifically, assess which visit types (i.e. inpatient, outpatient, telephone consult, etc.), clinic types (i.e. psychiatry, internal medicine, mental health clinic), and procedures (i.e. diagnostic evaluation, substance use monitoring session, psychotherapy for crisis) comprise the current level of service utilization.
2. Assess whether clinic-level metrics, such as staffing levels and appointment availability, correlate with trends in average health care utilization among diagnosed ADSMs.
3. Explore health care utilization patterns among ADSMs with various mental health diagnoses. For example, determine whether utilization of substance abuse treatment is higher in purchased or direct care settings.
4. Determine patterns of care utilization among ADSMs with comorbid versus singular mental health diagnoses.
5. Investigate care delivery patterns associated with improved mental health outcomes and/or increased readiness among ADSMs (e.g. does a relatively high number of mental health-related hospitalizations correlate with poor mental health outcomes scores and/or subsequent attrition from the ADSM population?).

V. References

1. Armed Forces Health Surveillance Branch. Epidemiology and Analyses: Surveillance Case Definitions. Accessed 08/22/16. Found at: http://www.health.mil/Military-Health-Topics/Health-Readiness/Armed-Forces-Health-Surveillance-Branch/Epidemiology-and-Analysis/Surveillance-Case-Definitions
2. American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders. Fourth Edition. 1994.
3. Braunwald, E., Fauci, A., Longo, D. et al. 2008. *Harrison's Principles of Internal Medicine*. 17th ed. United States: McGraw-Hill Professional.
4. Armed Forces Health Surveillance Center. Insomnia, Active Component, U.S. Armed Forces, January 2000–December 2009. *Medical Surveillance Monthly Report (MSMR)*; 2010 May; Vol 17(5): 8–11.